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Editor's Table.

Our usual Foreign Department is crowded out this month. We shall have it full of very interesting matter in our next month's issue.

The Editor expects to attend the Michigan State Convention to be held at Jackson, Dec. 10th, and the Indiana State Convention, to be held at Indianapolis, January 13th.

Be sure to see that the bees have enough honey to winter on. If they have not, they must be given either combs from other hives or fed with honey or sugar syrup.

Capt. J. E. Hetherington, of Cherry Valley, N.Y., the greatest honey producer in the world, was married on Thursday Nov. 20th 1879, to a lady of South Norwalk, Conn. May his future be as *sweet* as the honey, the immense yield of which has made his apiary notorious, the world over.

We have bestowed a great amount of labor on the very complete annual Indexes to be found in this number. They will be found exceedingly valuable by those who keep the BEE JOURNAL, for reference. Those who provide themselves with a Binder, will be astonished at the great convenience it gives them for consulting back numbers of the BEE JOURNAL. Read again what Mr. Heddon says of these Binders, on page 352 of the August number.



Lady Bee-Keepers.

We have received a letter from a prominent lady bee-keeper, who attended the National Convention in this city in October, in which she criticises the action of the male members, as follows:

I do not think women had as good an opportunity of acquiring knowledge at the late meeting as men. When I entered the roll of bee-keepers, I determined to learn everything that there was to be known about bees; to this end I have bought books and subscribed for periodicals.

I came to learn all that I could, and put up at the hotel, in order to converse with bee-keepers; but I was expected to go up into the parlor, and the men remained below in the office, where it would not have been considered proper for me to remain. I tried to be seated at the table with bee-keepers, in order to hear them converse, but only succeeded in doing so once or twice.

I do not want any favors in a bee meeting on account of sex. I know Dr. Parry did not consider ladies as members of the Association, for he did not call their names until his attention was called to it. He did not ask any of us to join, till we insisted on doing so. I heard him say that he wanted to take the names of the ladies present, but he did not say as members. There were ladies present, who cared nothing about apiculture and said that they came with their husbands to see the city. Practical apiarists, that were women were classed with those who came for amusement and to occupy an idle hour.

The idea of ladies voting as members of the Association, that hardly know a bee from a hornet. Let practical apiarists who are women, join the Association, and ladies who are visitors be known as such; then our bee brothers would not be afraid if they sought our society in the parlor and accompanied us to the hotel table, that we ex-pected them to foot our bills.

That night that we were at the JOURNAL office, as a lady we were expected to sit in a chair; but we wanted to hear the talk; so we stood on tip-toe, with men about five deep between us and those who spoke in order to hear what they had to say.

There is a great deal said now about employment for women, and they will be crowding into the ranks of bee-keepers, and do let them have a chance.

Some of the matters complained of can only be corrected by the advancing sentiment of the age, such as hotel etiquette for ladies, &c.

We were in favor of changing the Constitution to admit of the female members, paying the same as the males, and we think our fair correspondent is quite right in her distinction between apiarists and visitors among her sex.

At the meeting held at the JOURNAL office, we had not chairs enough to give all a seat, and out of courtesy only we offered the ladies the chairs, but if any desired to stand and hear the talk, of course they were at liberty to do so.

DOLLAR QUEENS.—Not only is it detrimental to the interests of apiarists at large to have *cheap* Queens sent all over the Country, but we learn that it is also detrimental to the breeders. One of those extensively engaged in this business has written to us as follows: “I find myself \$150.00 poorer now than I was in the spring. Unfavorable weather for queen breeding has nearly ruined me. I had to raise 2000 queens to get 1000. I never saw such bad weather for young queens to fly. Other queen breeders are in the same boat.” We are exceedingly sorry to hear that any one should be thus annoyed and perplexed in business, but it is quite time to consider the question—“Does it pay to have such stock either raised or sold?” Another queen breeder said to us a few weeks ago: “In putting up an order for dollar queens sometime since, I looked through the yard and gathered up all the poorest queens I had, such as I should not consent to have remain in my yard, and sent them. I could not afford to sell any queen that I would keep in my own yard for one dollar.” This gives *both sides*. It neither pays to breed such, nor does it pay to buy *cheap* queens. The true way is to buy the *best*, and pay a reasonable price for good stock!

Mr. W. H. Hoge, of London, has been commissioned by the United States Government to investigate and report upon the foreign outlet for American honey.

As a result of the exposure of the fearful extent to which the adulteration of syrups is carried, we are creditably informed that Minnesota has decreased her orders for syrups to less than one-half of what it formerly was.



Honey Yield.

In our last issue, we stated that Mons. Bertrand had a yield of 59 lbs. of honey from each of 8 colonies in his mountain apiary. A correspondent makes the following remarks concerning it:

In your November number, page 481, it is stated that a Swiss apiarist obtained 59 lbs. of honey per colony of 8. There seems to be no reason for mentioning it except as something uncommon. It is nothing uncommon about here to get much more than that from a series of colonies.

I removed my apiary in the fall of 1876 to a new place. The colonies were not in good condition, but the following statistics will show the product of honey and swarms:

In fall of 1877, I received 50 lbs. of honey from each colony, with an increase of 50 per cent.; in 1878, I got 150 lbs. of honey, and 66½ per cent. increase; in 1879, I got 110 lbs. of honey, and 120 per cent. increase.

But I have yet to see how they will get through the winter. Several years ago one of our apiaries yielded about 175 lbs. per colony. I do not remember the exact figures. Still I think 50 lbs. per colony, with 25 per cent. increase, ought to satisfy any reasonable person.

Cincinnati, O.

H. W. S.

The incident was worthy of notice only because of the general lack of the honey yield in Europe, and that the apiary in question was situated on one of the mountains of Switzerland, where it is usually quite cold. It will never do to compare the honey yield of any part of Europe to our own. With the immense number of our honey-producing trees, plants and shrubs, and our usually good climate for the production and gathering of honey, there can be no doubt of our retaining during all "the ages to come," the gratifying position of being the best honey-producing country in the world.

Mr. Perrine has had another fire in his honey store in this city. The damage was covered by insurance.

Mr. J. Ansley asks how to cleanse beeswax. On page 561 of this number of the JOURNAL, Mr. Scudder describes his method of doing it.

Queen Bees by Mail.

The following is a copy of the memorial adopted by the Northeastern Wisconsin Bee-Keepers' Convention, held at Watertown, Wis., Sept. 2-3, 1879.

HON. J. N. TYNER, 1st Ass't. P. M. General:—Feeling that the ruling by you in excluding queen bees and comb foundation from the mail (with proper regulations in regard to packing them), are both unjust and oppressive, our committee have been instructed to prepare a memorial to you requesting your attention in regard to it. Many persons live far distant from any express office, and are unable to obtain either queen bees or foundation, except through the mails; and while we could never urge that as a reason that any thing that could by any possibility damage other mail matter should be admitted, we feel that it is an additional reason why we should urge our rights as citizens. After diligent inquiry, we have failed to find that either of the forbidden articles have in any manner caused damage or inconvenience in the mails, and you will bear in mind that when the matter was brought to the attention of Congress, although no vote was taken, it was the expressed opinion of several Congressmen, and the tacit opinion of others, that any Postmaster ought to know that a queen bee was not a live animal within the intent of the law, and thus left the matter in your hands. Will you not make another appeal to Congress by bee-keepers unnecessary?

H. P. SAYLES,
A. A. WINSLOW,
J. S. KITTEL,
Committee.

This, with several other documents bearing on the subject, was read before the National Convention at its late session. A committee was appointed with Prof. Cook as chairman, to bring the matter before the Post Master General and to endeavor to get his decision, excluding bees from the mails, reversed. Prof. Cook has already started for the East and will visit Washington and interview the P. M. General before his return. He has taken a new queen cage, to submit to the department—one that ought to be perfectly safe—meeting all the requirements of the Postal regulations. We shall report the result as soon as the Professor returns.

Mr. G. M. Doolittle reports, on the 8th of November, 3 feet of snow had fallen in Onondaga county, N. Y. In Chicago up to that time we had only an inch, and now the ground is bare.



The Langstroth Fund.

The following letter from Mrs. A. L. Cowan has been received, acknowledging the receipt of the money collected at the late Convention. We shall be glad if those who subscribed and did not pay, will send on the amount so that we may forward it to Mr. Langstroth. Any others who would feel it a privilege to contribute their "mite," may also send it to us:

Oxford, O., Oct. 29, 1879.

MR. THOS. G. NEWMAN—*Dear Sir:* I exceedingly regret that the kindness of my father's many friends can at present meet with no better recognition than an expression of thanks by my hand. Your favor of the 25th inst. was received yesterday, and its unexpected enclosure of \$120 will provide for him many needed comforts for the coming winter. He wishes me to say that he deeply feels the kindness of his friends, which have been of material assistance to him.

Sincerely thanking you for your generous and successful effort in my father's behalf, permit me to sign myself,

Respectfully your friend,
ANNA L. COWAN.

The following will be read with interest:

THOMAS G. NEWMAN, *Dear Sir:*—I see you are Treasurer of the Langstroth fund. Please take charge of the enclosed for the fund.

It seems hardly possible that it can be 18 or 20 years, since he Mr. L., was here on a visit, and stopped over night with us. He looked very well then, and was the owner I thought of the finest head of hair I ever saw on a man. It was of a rich chesnut brown, as thick as it could grow, and not a grey hair in it. He must be very much changed since then. I recollect that he was very much interested in my experiments with foul brood, and I accompanied him to the city the next day, where we ransacked the library of the Pennsylvania Hospital in search of information regarding it, but found nothing of any account, excepting a few translations from the German. I think he was on his way to visit Mr. Wagner at York, Pa., when he stopped here.

It was only accidentally that I learned what ailed Mr. L., as he very seldom spoke of himself. I often thought I might have been of service to him had I known sooner. His complaint, if I am right, is generally supposed to be

incurable, but this is not so. It can be cured sometimes. I ought to know, it had hold of me once, and from the age of 17 for 40 years it never let go for a whole day at a time. I suffered "many things from many physicians," yet I got entirely well. The treatment for consumption is the only one to be relied upon. Active exercise, or better, some profitable employment that compels muscular exertion, and a life altogether in the open air. This and total cessation from brain work, and not neglecting to "throw physic to the dogs," is what cured me. A bad cold, in mid-winter, will still bring me back a reminder, and then iron and quinine in moderate doses has always broken it up in about 2 days.

I wonder if any one outside of Mr. L.'s family knows his full name; I got as far as L. Lawrence, and there I stopped.

Last winter was long and the season opened late. White clover finished blooming about July 10 and after that we got almost nothing. The crop of honey was less than one-quarter. Late in August the drouth set in, and from that time until now, we have had just about $\frac{1}{2}$ inch of rain. Natural swarms about 4 per cent. C. W. TAYLOR.

¶ In appointing the time for Conventions, it would be well to consider a few points. By holding them early in the month, say from the 1st to the 10th or 15th, it would give time to get a report of the proceedings in the BEE JOURNAL the following month. This is often very desirable; for many who are unable, from some cause or other, to attend, get quite impatient to learn what was done; and if any action is taken that is of interest to or affecting other organizations, Bee or Honey Shows, or anything else of general importance, it should be published as soon as possible. A delay of a month or so, is sometimes quite an inconvenience to many persons, and when it can be avoided, it is certainly worth while to do so. "A word to the wise is sufficient."

¶ By an oversight the sections, all in one piece, which were exhibited by Lewis & Parks, at the National Convention, were not included in the list of exhibits on page 528, of the last JOURNAL. It was quite a large exhibit and the sections were very nice.



Dysentery as a Bee Disease.

Mr. C. W. Taylor, Oakford, Pa., desires to have the following questions answered by Moosh Amiel, who has written several articles on this subject:

1. I want to know whether this contributor ever examined a hive, the bees in which had perished from dysentery; or does he know of any one who has done so, without finding the combs in a damp and even mouldy condition?

2. Has he or any one else, ever found the combs of an old fashioned box-hive in this damp and mouldy condition?

3. Has he or any one else, ever known the bees in an old fashioned box-hive, to perish from dysentery?

4. Was the dysentery ever regarded as a serious bee disease, before the introduction of the Langstroth, or movable-frame hive?

At the late meeting of the National Convention we were requested to get photographs of the leading apiarists, to sell to those who wanted them. We can now supply the following at 25 cents each: Dzierzon, the Baron of Berlepsch, Langstroth. In England Mr. Langstroth's photograph will be sold at a half-a-guinea each, to add to the fund for Mr. Langstroth which the English apiarists are now making up. If any wish to give one, two, three or five dollars for it here, the surplus will be credited to the fund raised by the late National Convention. The likeness of Mr. Langstroth which we have, is one furnished by his daughter, who says, "it is the only one ever taken when he was in good health and spirits." We are glad to be able to secure one of such a satisfactory nature.

The date following the name on the wrapper label of this paper indicates the time to which you have paid. We shall hereafter send none unless paid for in advance. We should be glad to accommodate those who desire credit, but our losses are so large in that line now, that we really cannot afford it—having now about \$10,000 invested in such outstanding accounts. This rule will be strictly adhered to. That which is a very small item to each one of a thousand, is a heavy load for one to carry.

New Smokers.

Mr. J. M. Shuck has sent a smoker to our Museum. It uses an upright bellows; the fire-pot is 3 inches in diameter and 7 inches long, giving large space for fire. The bellows has 3 inches of play, and the spring is on the outside. It is similar in appearance to both the Quinby and Bingham smokers, though it differs from them in some points, both internally and externally.

Mr. Scovell has sent his 5th and 6th smoker to our Museum. The latter has the "cold blast," to perfection—though as we remarked in the JOURNAL for last March, we fail to see any advantage in the "cold blast" for smokers. In this, Mr. Scovell carries the air from the bellows directly to the top of the air tube without coming in contact with the fire. The tube is also hinged to the bellows. The former is the same as the latter but not having the cold-blast attachment.

Herr Rentier von Corswant, of Greifswald, Pommerania, has invented and patented a bee smoker which Pastor Knoblauch (the discoverer of the way to seal combs artificially) says deserves the preference over the various implements of this sort which he has tried during a long series of years. The principal advantage claimed for it is just what has been for a long time one of the valuable features of American smokers, namely, the smoke is driven from above down through the material burned, thereby cooling it and rendering it free from sparks and ashes.

We will send sample copies to any who feel disposed to make up clubs for 1880. There are persons keeping bees in every neighborhood who would be benefitted by reading the JOURNAL, and by using a little of the personal influence possessed by almost every one, a club can be gotten up in every neighborhood in America. Farmers have had large crops, high prices, and a good demand for all the products of the farm, therefore can well afford to add the BEE JOURNAL to their list of papers for 1880.



Our Letter Box.

Venice, Pa., Oct. 28, 1879.

My small stock of bees did very poorly this year. I got 1 swarm but no honey, while others around me did finely. What kind of location is best for an apiary—a side hill or a flat ground? Mine is flat ground.

W. M. M. SLATER.

[From the fact that a hill-side is a protection against high winds, such sloping to the southeast would form a very desirable location.—ED.]

Rensselaer Falls, N. Y., Oct. 4, 1879.

I wish to call attention to the mammoth Russian sunflower, as a bee plant. I have taken special pains this season to test its virtues as a forage plant for bees. I planted a plat of it the same time I planted my corn and treated it similar to the corn, as to cultivation. It has now been in bloom some two months, and the bees have been very busy since then, securing both honey and pollen. It is interesting to see with what vigor they work in securing pollen from it. It is the only recourse they have now, as a week since we had a frost here that destroyed what else they had access to, but the sunflowers were not harmed, and will probably blossom two weeks yet. I shall plant more next year as they (the seeds) are valuable for horses, cattle, &c., possessing properties similar to oil-cake (flax-seed). Chickens are fond of them and they are superior to corn for egg production. The yield is about the same as corn. I have some heads as large as a five-quart pan. The early part of the season was favorable here for bees; in fact white clover never yielded better but the last three months has tried weak ones.

G. A. WALRATH.

Richmond, Texas, Nov. 15, 1879.

The November number of AMERICAN BEE JOURNAL has been read with much interest, especially the report of the Convention. My bees have done well; they are nearly through with gathering honey now, except from a sugar mill near by, where, unfortunately, I am losing many. My colonies are very strong. From 69 in the spring I got 42 swarms, and 4,000 lbs. of honey in one pound sections, and 6,200 lbs. of extracted. From a hybrid colony in a Langstroth hive (which I use exclusively) with an extra story on top, I got 402 lbs. of honey. It gathered in 3 days 54½ lbs. and had to go from 2 to 3 miles, where basswood and golden rod abounded and yielded well. They are still bringing in pollen from smart weed. We have no frosts yet. The thermometer stands at 70° to 75° in the shade. We have no white clover here. I shall try it next year. Mustard blooms during all the winter, and bees work on it every fine day. In northern and western Texas bees gathered no honey, on account of drouth. There are but few apiaries in our State yet, but much interest is being manifested by many persons all over the State.

J. W. ECKMAN.

New Amsterdam, Wis., Sept. 27, 1879.

Please let me know the name of the enclosed plant, and its value to the bees. I killed, this month, 1,100 drones from one box hive. They did not swarm, but produced 21 lbs. surplus comb honey.

H. SPENGLER.

[This is a species of cudweed (*Gnaphalium*). It belongs to the composite, the same great order which contains asters and golden rods. The plant here referred to is not of much value for bees.—W. J. BEAL.]

Lawson, Mo., Nov. 7, 1879.

While others are sending in their wail a little groan from me may not be amiss. I reduced my bees last spring to 125 colonies by selling some, and from these I have not had a pound of honey and only 1 swarm. I expect to lose one-half or two-fifths of my bees this winter. They have not honey enough to carry them through, and what they have is mostly unsealed. The queen you sent me is not as yellow as some I got from others, but her bees are far ahead of any Italians I ever saw. The honey crop throughout this part of Missouri is a complete failure. My best wishes for you and the JOURNAL.

J. L. SMITH.

Woodbury, Conn., Nov. 14, 1879.

I see by the AMERICAN BEE JOURNAL that H. L. Jeffrey, Waterbury, Conn., is the Connecticut Vice President, and if that is intended for your humble servant, please oblige by making note of error, as my address is Woodbury, Litchfield Co., Conn., and I will do my best to fill the bill in my district. I had not noticed it until I was spoken to about it.

H. L. JEFFREY.

[This was a clerical error made in copying the list of names, and in the hurry we did not discover it. You are the man.—ED.]

Parkman, Maine, Sept. 13, 1879.

I see in the April number of JOURNAL that I am appointed Vice President of the National Convention, for the State of Maine. I think myself highly honored with the appointment. I think there are others better able to fill the office than I am, yet, I will do all in my power to forward the interest of bee-culture. It would be useless to attempt to form a Society in this State at present, as we have but very few scientific bee-keepers, yet I think we shall have one before many years; as the people have just begun to wake up to the fact that there is something better for bees than box hives and brimstone. I have made arrangements with an agricultural fair to exhibit aparian wares, bees and honey. I think we shall have a good display for the first one. The best way, I think, to get to the top of the ladder is to start from the bottom. I commenced the season with 4 strong and 6 weak colonies, increased to 26 and took 1,000 lbs. of surplus honey, part box and part extracted. My colonies are now very strong with bees and honey. I have sold 800 lbs. of my honey at 20c. per pound for extracted and 25c. for comb. I have been for about 2

weeks transferring bees from all kinds of hives into the Gallup hive, the one I use. I shall transfer until October. I think I have a nice way of defeating robbers where I have more than one to transfer; I shut up the hives all but one, in the morning; while transferring that one they will get so full of honey that they will not meddle with others until they get cleaned up and unloaded, which will take them all day. I take one after another until I get through. I have never been disturbed by robbers since adopting this plan. This season has been very cool and wet. We have had no drought at all; as we usually do. Bees are at work on golden rod and aster, we have abundance of them here. I think the AMERICAN BEE JOURNAL is the best investment that a bee-keeper can make.

W. H. GREEN.

Cook's Mills, Ill., Oct. 8, 1879.
I send you specimen of a honey plant. Please give me the name and properties.

A. J. MONROE.

[The specimen sent is an aster. It is a good honey plant. See "Cook's Manual," page 243.—ED.]

Topeka, Kansas, Oct. 2, 1879.
I find the enclosed plant blooming on the prairies about Topeka the first of October, and the bees working on it. What is it?

FRANK RIX.

[This, like the above, belongs to the aster family of plants.—ED.]

Peru, Ill., Oct. 25, 1879.
I have met with nearly all the principal bee-keepers within 20 miles, representing nearly 2,000 colonies of bees, (principally black) and the universal cry is no surplus honey. Many young swarms in this locality have not gathered sufficient honey to winter on; in fact many have deserted their hives during the past two months. Last year my colonies averaged over 100 lbs. of honey each. It was mostly extracted, and I sold it from 12 to 14 cents per pound. Last winter the loss of bees in this locality was great; I lost 12 out of 69. I have in winter quarters 90 very good colonies.

H. S. HACKMAN.

Knowlersville, N. Y., Nov. 10, 1879.
Last winter I put 90 colonies in my bee-house; left 60 on summer stands; lost 28 colonies, most of which were of those wintered out-of-doors. Sold 1 colony, leaving 121 (20 of which were very weak, the rest in good condition) to commence the season with. We had considerable of unfavorable weather during the yield of honey, but the result, on the whole, is quite satisfactory. Swarming commenced May 22, and continued until July 18, with but little interruption. As high as 16 swarms issued in one day. I had about 150 swarms, part of which were returned, leaving the total number of colonies now at 200. I have taken 9,650 lbs. of comb and 1,385 lbs. of extracted honey, total amount 11,035 lbs.: 7,000 lbs. of this was gathered from buckwheat, the rest from clover, basswood, &c.

W. D. WRIGHT.

Dupont, Ind., Sept. 29, 1879.

I send parts of 2 plants from which bees are largely gathering honey of a nice golden color and good flavor.

No. 1 grows along with golden rod (*solidago*), fig. 99, page 242 of "Cook's Manual," and is much the same in style of growth except the flower, but is much preferred by the bees.

No. 2 is known here as wire-weed, and is a great nuisance in marshy meadows. It will bloom and secrete honey after frost sufficient to kill almost everything else.

S. E. O'NEEL.

[No. 1 is double-bristled aster (*Diptopappus umbellatus*). This might be mistaken for a true aster.

No. 2 is *Aster tradescanti*, variety *fragilis*, a very common species.—W. J. BEAL.]

Los Gatos, Cal., Nov. 12, 1879.

I commenced in the spring with 45 colonies; 39 Italians and hybrids, and 15 blacks. I increased to 61, all from Italians and hybrids; and almost all the honey I obtained, was from them. It was a rather poor season, although I did very well for the season—3,905 lbs. of extracted honey. I think I should have had a full thousand pounds more, had it not been for drone-rearing, but being a cold spring the bees took possession of the upper part of hives which contained a large amount of drone comb and we had to slice an immense quantity of drones. I think I shall try floor oil cloth for covering frames, and so keep the heat, queen and brood below, and have the upper combs worker, thus preventing drone rearing. Have any of your readers tried floor oil-cloth under the covers and for division boards? I get second-hand cloth and find nothing as good, the bees cannot gnaw through it.

I have a very convenient atmospheric feeder made of two oyster cans one, $\frac{1}{2}$ of an inch larger than the other; I make them myself; I can make one in about 5 minutes; the cans cost nothing but picking up at the hotels; they work perfectly inside or out. The feeders are made by melting off one end of each; filling the small one; turn it bottom up, in the large one. After cutting a hole in the large one, $\frac{1}{2} \times 1\frac{1}{2}$ and $\frac{1}{8}$ inch from the bottom, for the bees to enter. Where used outside, make it so that the bees can enter the hole from the entrance, and none get in from outside, and put a cover on the outside can. The cover is made by cutting off the can same size cutting the rim which is $\frac{1}{2}$ inch deep about every inch; pressing out the rim so as to open the cuts a little, and it will slip on and answer just as well as if made by a tinner.

Perhaps this may help some to keep combs from melting down. My Langstroth hives are made with ventilators in the center of the bottom 3x8, and covers nailed at each end to pieces 1x3, and when the hot weather comes I raise up the covers by nailing a lath on the under edge of the end pieces, at each end, and putting it on top of hive, putting on burlap sacks, so that the cover is 3 inches above the sack. I have never had but 3 combs melted. I acknowledge that I am



greatly indebted to our bee-keeping friends for many valuable hints and although other bee papers are good, still the "old reliable" keeps the lead and still improves.

S. S. BUTLER, M. D.

DeVall's Bluff, Ark., Sept. 15, 1879.
Inclosed find a few sprigs indigenous to this region. This is one of the very best honey plants that we have, in fact it has no equal this season. It has been in blossom for the last 2 months or more, and is covered with bees all the time. The berries, when ripe, are dark red or brown. Please give its name in the JOURNAL, for the plant is valuable.

S. R. MASON.

[The above is Indian currant or coral berry (*Symporicarpus vulgaris*). It has always been very highly extolled by bee-keepers.—W. J. BEAL.]

Sussex, Wis., Nov. 3, 1879.
I have 63 colonies of bees in good condition for winter from 30 in the spring, and got 1,200 lbs. of honey from the same. I sold 3 colonies in the summer and 1 good colony this fall. I am not discouraged yet.

T. E. TURNER.

London, England, Oct. 11, 1879.
Do you know of any successful means of closing the space at the ends of combs without propolization? I have been experimenting this year and so far as my experience goes I find that by closing the ends of the frames with india rubber, so as to render the joint perfectly air-tight, that the bees do not propolize as in the ordinary course, if an air space is omitted. As regards my experience with this method—I commenced the experiment at the end of June—it has therefore had nearly 4 months' trial.

C. I. STEVENS.

Ada, O., Nov 3, 1879.
To the readers of the AMERICAN BEE JOURNAL I would say that another honey harvest is past and we have our bees about all snugly prepared on their summer stands for Jack Frost and his zero sword, with which last winter he slew so many of our little heroes; though let it be remembered that poor rations makes more corpses among our pets than king zero. I sold quite a number of colonies leaving about 40; which in spite of the drouth in June and the wet weather following, I increased by division to something over 100 colonies, and got over 1,500 lbs. of comb and extracted honey. My imported Italian and home-bred mothers produced the bees that filled my section boxes with honey that sold this fall for 20c. per pound. I sold extracted honey at 15c.

My Italian bees wintered better than the blacks, and come out stronger in numbers in the spring; and of course spring dwindling did not occur. I find no difference between the imported mothers or home-bred ones, for wintering, honey gathering or prolificness, but I do claim that we have home-bred mothers that produce lighter and more handsome workers than the imported ones, that I have, or have seen anywhere. I have spent both time and money, importing bees

direct from Italy and buying from American breeders, in order to get a lighter colored strain of bees; and at the same time I have done my best at home, in rearing queens of the ones I had bought. Some of the young queens I reared was worth \$5.00 to me, a few worth \$3.00 and quite a number \$1.00 (less 90c.). I did not find the colored bees I wanted, till I received some from D. A. Pike, the Albino bee man. I care not what he calls his bees, where he got them, or how he came by them, they are the colored bees that suits me.

J. B. MURRAY.

Enfield, Ill., Aug. 27, 1879.
I send you the top and bloom of a honey plant which grows in our wet land to the height of 3 or 4 feet, branching within 10 inches from the ground. The flowers are sweet-scented, and produce very light-colored and pleasant-tasting honey in abundance. Please give us the name of it in the JOURNAL. The plant is spreading to the upland, and is highly prized. I must have Italian bees, if they will gather nectar from red clover. I have about 20 colonies of black bees, and will remove to my farm in a few months where red clover is abundant, with none but bumble-bees working on it, which profit me nothing in honey; so I must try others. If they will, I shall Italianize as fast as possible. G. A. WILLIS.

[This is an aster, and produces excellent honey.—ED.]

Davenport, Iowa, Nov. 18, 1879.
I have 220 colonies of bees in fine condition for the winter. I have sold 7,500 lbs. of comb honey. I had but 15 swarms this season from my 210 colonies. The honey yield has been light all through Iowa. I do appreciate the AMERICAN BEE JOURNAL very much; it is a great help.

E. R. WRIGHT.

Wahalak, Miss., Oct. 15, 1879.
I am a novice in apiculture (I mean modern apiculture). Although I have had bees for more than 30 years in the old style box or gun hive, I have never produced much honey and no profit. Last February I purchased a right from N. C. Mitchell, of Indianapolis, Ind. I purchased about 22 colonies in guns and boxes, which were in bad condition, and by the middle of March they died out and were reduced to 17 guns. I made 30 or 40 Mitchell hives preparatory to swarming, expecting at least 50 or 60 swarms. As a usual thing we have from 3 to 5 swarms from each hive, but as the spring was cold and wet, we had an extraordinary poor honey season, and consequently had but few swarms, only 8 or 10 in all. In May, after finding they were doing nothing in the way of swarming or getting honey, I concluded to transfer from the old hives. In doing this I lost several colonies by the robbers. I found the bees in my new hives and those in the old guns were making but little honey, and that of an inferior quality, very dark and of a peculiar taste. From the 15th of June to the 15th of August, they scarcely gathered enough to support them; after that they commenced business, gathering honey rapidly, and to my surprise, on the



26th of August a large swarm came out, followed by seven more by Sept. 5th; and still more to my surprise, a new generation of drones came out. The honey gathered this fall is of a fine quality, and the bees are doing well at this time. This honey has been mostly gathered from a weed that is common in this portion of Mississippi. I know of no name for this weed. Enclosed I send you some blossoms and a leaf; can you name it? It has very small seed. The roots live all winter in this climate. I have had many reverses in this new enterprise, but contemplate persevering in the business. H. W.

[This is a species of *Eupatorium*. It is probably *E. hyssopifolium*. There are some 20 species, all good for bees so far as I know.—W. J. BEAL.]

Addison, N. Y., Oct. 11, 1879.

I lost all of my bees but 1 colony. I purchased 8 more; they increased to 20; I got but little box honey; still I think they will winter all right. It has been dry here, this summer; there were no flowers to speak of, only now and then a little shower, not more than a good heavy dew; and then the wind would turn around in the north or west and be cold and chilly, and sometimes would shut the bees in for one or two days. It is now cold and frosty and of course they have gone in for winter. Honey is scarce in this section; increase has been very small. Some of the bee-keepers have had no increase nor any box honey; in a few isolated places they have done well. I do not know the reason why there is so much difference, unless it is on account of the red Raspberry, that is so much more natural in some places than in others.

S. B. BORDEN.

Kane, Ill., Sept. 30, 1879.

On July 9th, I received an Italian queen and 2 worker bees in a cage from a queen-rearer; the queen was in a dying condition and one worker was dead, I fed the live bee all the honey it would take and turned it loose at dark, and returned the dead queen to the sender. The next morning the same bee came buzzing around the door screen. My daughter remarked several times that she would go and feed that poor little bee, but it left; where it went, I know not. The hive No. 8 that I spoke of in the BEE JOURNAL for September, page 420, stands within 25 feet of the door where the bee was last seen. The young queen in that hive had been out 10 days and the colony was then very weak and to my great surprise the brood in that hive hatched out on the last of August was all 2 banded Italians (bright) and have increased till they are now strong and in good working order. There are no Italians nearer me than 8 miles. I have one queen hatched out since that; her brood is black. No. 8 contains the only mixed bees in my apiary of 16 colonies. I received a pure Italian queen of Mr. Alley on the 7th of August; her progeny all have 3 bright golden bands, and the queen's wings are clipped; the hives are 25 feet apart. She has no drones yet. I would like to know how this all happened. Please tell me. My bees are yet in fine condition. I got no

honey from my bees this season. I gave some full combs to the poor colonies and I procured a lot of Shuck's bee feeders and I am feeding all the late colonies. The robbers from the timber are yet troublesome to me. The honey crop is a total failure here and the bees generally are in poor condition. The buckwheat crop is a failure here; the weather is yet dry and cool.

RADFORD M. OSBORN.

[Your young queen probably met an Italian drone from the woods.—ED.]

Lansing, Mich., Oct. 15, 1879.

I notice in the JOURNAL of this month a letter from my father in which he states that I am a graduate of the Agricultural College of this State, under Prof. Cook. This is a mistake on the part of my father, and the result of a wrong impression. I was a student there for two years but owing to the illness of my mother was unable to remain and take my degree. While there I did not take bee-culture as a study but watched with interest the successful management of the apiary by Prof. Cook and his able assistant, Mr. Fisk Bangs, now of South Haven. On returning to the college by the suggestion of Prof. Cook I adopted bee-keeping as an occupation, and allow me to say that to his kind advice and the valuable teachings of his Manual, I this day owe my success as an apiarist, and would advise every one to obtain Prof. Cook's Manual, for no library is complete without it.

GEORGE L. PERRY.

Rienbeck, Iowa, Nov. 10, 1879.

I have read the JOURNAL for November and am very much pleased with it. Bee interests are much improved in the last few years. Bees have done better in this section than some other localities. Do bees gather honey from the white willow? That is the first thing to come out in the spring and it is just swarming with bees at work on the tags or blossoms. There are miles of willow in this country and plenty of white clover. There are no Italian bees in this section. We must improve our stock.

D. S. BURBANK.

[Bees do gather honey from the white willow.—ED.]

Bloomingdale, Mich., Nov. 18, 1879.

Last year I wintered my bees without loss; they were packed in 2 long boxes; one had 13 in, the other 10; placed 28 inches from center to center; I packed all round and between them with chaff, but none in front. I put cloth on the top of the frames, and then put the chaff on, well packed; the boxes are 2 inches from the ground. I banked up with dirt and left them so all the time. I leave the chaff around the body of hive during the summer, the roof being on, of course. I reduced them by sale down to 19 in the spring; I have sold about \$100. worth of honey in Chicago; have eaten 200 or 300 pounds of honey in the family. I increased the colonies to 33, mostly by swarming. I have now 27 all packed and in fair order. It has been a poor year for honey.

JOHN CROWFOOT.



Beaver, Oct. 6, 1879.

Enclosed find 2 specimens of plants which grow profusely in our vicinity, and from which bees obtain considerable honey from about the middle of September until the bloom is destroyed by the frost. Am I correct in supposing them to be asters? The larger variety grows from 3 to 4 feet high, and is found principally along the shady edges of the woods on runs and creeks, while the smaller variety, from 8 to 12 inches high, is always found on the upland. From the number of bees frequenting them, they must contain much honey.

W. M. S. BARCLAY.

[Yes; these are fragments of two species of asters.—W. J. BEAL.]

Augusta, Ga.

I send you samples of a few of our Southern forage plants—12 different varieties including two varieties of solidago. These plants are referred to in my paper on "Bee Forage in the South" read before the National Association at Chicago, last month. Please place these specimens in your "Museum of bee-keepers' curiosities." The North American Bee-Keepers' Society, though still in its swaddling clothes, has the power to wield an immense amount of good to our Country. While its meetings sum up the experience of the wisest and best bee-keepers, and while it aims to assist the honey-producers to protect their products from adulteration and to encourage their sale, it should never lose sight of the question of the still yet undeveloped mysteries in the development of the honey-bee, and of the many occult pages in its natural history. The American Society for the advancement of National Science; the American Pomological Society; the American Medical Association, &c., all have their standing committees for investigation and observation. Would it not be advisable to have something of the sort in the Bee-Keepers' Society? May the North American Bee-Keepers' Society virtually know no North, no South, no East, no West, but work for a common good and a common cause, and may its sessions always be harmonious and instructive, so that its members can return to their homes socially and intellectually benefitted.

J. P. H. BROWN.

Peoria, Ill., Oct. 1879.

In driving along the Illinois river bottom, about Oct. 1st, we noticed large quantities of aster simplex in bloom; is it a good honey plant? During this warm weather, bees are bringing in honey quite freely from some source. Golden rod, asters, and a species of smartweed (*polygonum*), are all the source we know of. In ordinary seasons, golden rod is through blooming by this time. We have noticed white clover blooming beautifully in some places, but have had no opportunity of ascertaining whether it is yielding honey.

MRS. L. HARRISON.

[I had always supposed that all of our numerous asters were good honey producers. I know no reason to suppose that aster simplex is any exception.—W. J. BEAL.]

LaCrosse, Wis., Sept. 16, 1879.

I send you a part of a plant that grows in great abundance on the sandy prairies in this locality. The blooming season is during the month of August. The poorer the soil, the better the plant grows and the more honey the bees can gather from it, provided it is not too dry, which is hardly ever the case in this locality. The honey is very light in color, not as good as the white clover and linden honey, and it also has a peculiar taste. The plant is called by many mint, but I believe it to be white sage. Please reply through the JOURNAL what the plant is called. I shall gather some of the seed and send to you. L. H. PAMMEL.

[The above is wild bergamot (*Monarda fistulosa*), a well-known honey plant.—W. J. BEAL.]

Cambridge, Ill., Oct. 31, 1879.

It may not be too late yet to give my experience with my bees last winter. I am satisfied I have found the true principle of wintering, though it is not new by any means. I must tell the readers of the best bee paper, how cheaply and well I brought them through. In the east side of a small hill I dug out a hole 9x12 feet and 5 feet deep, letting the bottom slant with the hill; posts were set on the sides and ends, good heavy ones to hold up the roof, a double door was put in the east end; the top was made roof-shaped and covered with about a foot of straw, then 6 inches of dirt, then a good coat of straw on top, with some long grass to keep it from leaking. A 2 inch pipe was put in the west end for ventilation, and a small hole was kept open in the east end, all the winter. A slanting doorway was cut out and boards laid on top with straw kept on top to keep out the heat of the morning sun. Now for the results, I put 48 colonies in the cave the 4th of December and took them out on the 8th of March, having looked at them but once during the winter. They all came through in fine condition except 4, and these were sitting on the damp ground, as my cave proved too small for the number of colonies. The temperature generally stood at 40° to 46° fell but once to 36°. They kept very quiet, and in their first-flight never soiled the hives a particle. The cave was boarded on the inside. The floor should be made drier than mine was, with sand or something of the kind. J. V. CALDWELL.

Wellesley, Mass., Sept. 20, 1879.

What is the cause of a peculiar odor emitted from the hives in late summer and early fall? Last year I noticed nothing of it, but this season it has been very perceptible. I do not suppose it to be anything uncommon to bees, or due to any wrong in their condition, as mine have always wintered well, coming through in the spring strong and vigorous. Never noticed it before the last of August, or after frosty nights had set in. I winter them under an open shed, with bags of rowen stuffed in at the top and sides of the hives, allowing them flights on sunny days. I. FLAGG.

[The odor comes from some plant upon which the bees work.—ED.]

Correspondence.

For the American Bee Journal.

Dysentery and Wintering.

G. M. DOOLITTLE.

Is there such a disease among bees as the dysentery? I answer, No. I am well aware that nearly every writer on the subject for the past 10 years has told us that there was such a disease, and has attributed the cause to cider, honey dew, extreme cold, old bees, &c. But let us look at the thing rationally, and see if all these writers have not been mistaken. Do we see the bees soiling their combs and hives at any other time except after a long-continued confinement? If we had July weather steady for one year, would the bees die of the so-called dysentery as they did last winter and spring? Of course not. Supposing a person, from some cause, was obliged to retain all he ate for ten days or two weeks, and after nature gave out, would any doctor in the land say he had the dysentery? No. So, then, we see as nature has made it a necessity for bees to fly to void their faeces, that it is their being obliged to stay in their hives longer than nature allows that causes this so-called dysentery, and nothing else. If this were not so, why do we read many times, by various writers, "my bees were suffering badly with the dysentery, when a fine warm day came and they had a good fly, and now they are all right." Can the reader understand how a bee just ready to die with such a dangerous disease, can be cured of such an epidemic by a few moments' flying, only on the grounds above given? That nature has made the bee capable of containing their faeces longer during confinement in cold weather than in warm, is a self-evident fact, for bees will soil their combs and hives in one-fourth the time with a temperature of 70° that they will with one of from 10° to 40°. It is just this principle, that bees can control their excrement for a long period of time during cold weather, that enables us to keep them at all here at the north. Believing the above to be correct, our next point to be considered will be

WINTERING BEES.

Having admitted that long confinement was the cause of the great mortality among bees in the past, let us see what can be done in the future to help the bees control their faeces during such winters as the winter of 1878-'9 proved

to be. Now, just see how all agree on this wintering question. Having once taken this view of the matter all is harmony, and the theory of each writer on the subject of wintering proves correct. Let us notice some of these, for we have nothing new.

First. Cellar wintering has proven about the best plan. Why? Because from the even temperature of the cellar the bees need but little food to keep up the necessary warmth they require during this period of partial inactivity which winter compels them to pass through. As but little food is required, the body of the bee easily contains said food after digestion, and thus all goes well.

Second. Chaff-packed hives on summer stands are advocated by nearly as many as cellar wintering. Why? Because as the bees are surrounded by porous walls, which take off the moisture passing from the bees' bodies, also retaining the warmth generated by themselves, they are kept at a more uniform temperature than they would be without the chaff-packing, thereby lessening the consumption of honey, and enabling them better to throw off a part of the moisture contained in their food, and to contain the rest till the weather shall be sufficiently warm for them to fly. This mode has a seeming advantage over cellar wintering, in that it allows the bees to fly if an opportunity permits during winter, but is offset by a more uniform temperature, and a consequent decrease in the consumption of stores in the cellar.

As these two plans are about the only feasible ones, let us next look after the other causes which help these plans to be a success or a failure. Those looking toward a failure are these: First. Poor honey, such as honey-dew, cider, soured and unsealed stores, &c. Why? Because the bees have to take into their bodies an excess of that which is not real food to them to sustain their existence, thereby distending their bodies, and unless a chance to fly presents itself often, they must die in a loathsome condition. Second. All causes which disturb them in their winter repose. Why? Because as soon as they are disturbed they take into their bodies more food than is required for their existence, thus placing them (with the best of food) in the same condition they would be with poor honey. So we see how important it is that they should have perfect quiet; that no mice or rats are allowed in or on the hives, or that the temperature of the cellar does not get so high as to make them uneasy. Third. But few bees, or mostly old ones. Why?



Because if but few bees, they cannot keep up the desired warmth without consuming an undue quantity of food, thus thwarting our object; and if old bees, they will die of old age before the young ones in sufficient numbers hatch the next spring.

Those looking toward a success are these: That those on summer stands have a fly once in 6 or 8 weeks; that each hive contains an abundance of bees and good sealed honey, or sugar syrup made of "A" coffee sugar, a good queen, a hive so that the bees can cluster compactly, &c. Why? Because all these things have a tendency toward accomplishing our object of keeping the bees in such a state of quietude that they can contain their faeces for a great length of time, for upon this hangs all the secret of successful wintering. "But," says one, "our bees died more rapidly last spring, from the middle of March till fruit bloom, with purifying flights from once in two weeks to every day, and that when fed on good capped honey, than they did at any time during the winter." Admitted; so did ours. The reason was this: Their vitality was so impaired by the strain brought to bear on them consequent upon holding their excrement for nearly 5 months, that they spring dwindled, or, in other words, died of premature old age. Don't you think that the person spoken of at the beginning of this article would have been sick and his constitution somewhat worn, if he had been compelled to contain all heat for two-thirds of his natural life, as the bees had to last winter? Another says: "Can you tell me why bees now die in spring of old age more than they did years ago?" I can tell you what I think the reason is; it is this: Our timber land has been so cleared off to meet the demand for nice houses and costly furniture, that the wind sweeps the country almost unobstructed, making the State of New York nearly as bleak as the western prairies. This causes two things: 1st. A greater amount of food to be consumed to keep the desired temperature; 2d. We have many days when it is warm enough for bees to fly, that the high winds prevent, while, if in a sheltered nook, with a wind-break 100 feet high, they could fly nicely, and we go to bed at night feeling that the bees are in fine condition to stand another cold pull, instead of knowing that the bees must perish if a warm day does not soon come without wind. We had two days last winter, prior to the 10th of March, that bees could have flown nicely had it not been for the wind. To illustrate, when friend Betsinger lived at Marcel-

lus Falls, he was in a narrow valley, with hills rising each side, upwards of 100 feet. On one side the N. Y. C. R. R. threw up an embankment nearly as high as the hills, and on the other there was a point of rocks that jutted out half-way into the valley. In this place his bees could fly when mine were kept in by high winds. In 1872, when we had our former disastrous winter, friend Betsinger lost scarcely a swarm, nor did he lose any to speak of while there, but since he has moved to a higher altitude, where the wind rakes, as it does in most places, the country over, his losses are equal to those sustained by any of us.

Kind reader, I have now fulfilled my promise, made a year ago, to give you an article in each number of the *AMERICAN BEE JOURNAL* for 1879. I have tried to give you articles of practical value, and those that would be of use to you. How I have succeeded is best known to yourselves. I now say good-bye for 1879, and promise, if Providence spares my life and health, to again write 12 articles for the *good old AMERICAN BEE JOURNAL* for 1880.

Borodino, N. Y., Nov., 1879.

For the American Bee Journal.

The Sting of the Worker Bee.

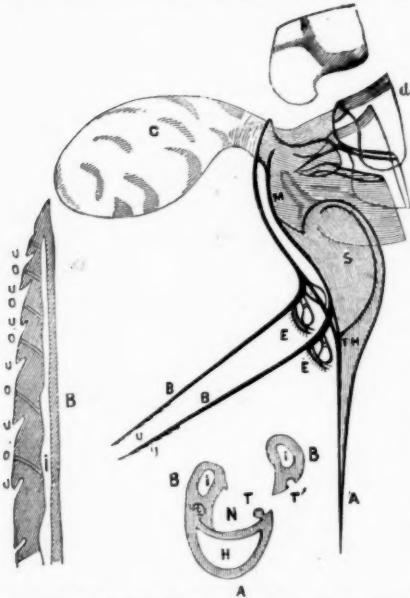
PROF. A. J. COOK.

The worker bees possess an organ of defense, which they are quick to use, if occasion demands. This organ is straight, not curved as is the sting of the queen. The poison, which is emitted in stinging and which causes the severe pain, is an acid fluid, which is secreted by a double gland, and stored in a muscular sack (fig. c), which is about the size of a flax-seed. This sack is connected by a tube (fig. m) with the reservoir of the sting. The sting is a triple organ consisting of three sharp hollow spears, which are very smooth and of exquisite polish. If we magnify the most beautifully wrought steel instrument, it looks rough and unfinished; while the parts of the sting, however highly magnified, are smooth and perfect. The true relation of the three parts of the sting was accurately described by Mr. J. R. Bledsoe, in the *AMERICAN BEE JOURNAL*, vol. 6, p. 29. The action in stinging and the method of extruding the poison is well described in a beautifully illustrated article by Mr. J. D. Hyatt, in Vol. I, No. 1, of "American Quarterly Microscopical Journal." The larger of the three awls (fig. a), usually, though incorrectly, styled the sheath, has a large

cylindrical reservoir at its base (fig. s) which is entirely shut off from the hollow (fig. h) in the more slender part of the awl, which latter serves no purpose, except to give strength and lightness.

The reservoir connects at its base with the poison sack, and below by a slit with the opening (fig. n) made by the approximation of the three awls.

The other two awls (fig. b, b, b) which we will call lancets, are also hollow (fig. i, i). They are barbed (fig. u, u, u) much like a fish-hook, except that there are eight or ten barbs instead of one. Five of the barbs are large and strong.



Sting with Lancets drawn one side, cross-section of Sting and a Lancet, much magnified.

e—Poison sack.	o,o—Openings from hollow in lancet.
m—Tube from sack to reservoir.	u,u—Barbs.
s—Reservoir.	h—Hollow in awl.
a—Awl.	i,i—Hollows in lancets.
b, b—Lancets.	t,t—Ridges in awl.
e, e—Valves.	t—Groove in lancet.

These barbs catch hold and cause the extraction of the sting when the organ is used. Near the base of each lancet is a beautiful valvular organ (fig. e, e). The hollow inside the lancets (fig. i, i), unlike that of the awl, is useful. It opens anteriorly in front of the first six barbs (fig. o, o), as shown by Mr. Hyatt, and posteriorly just back of the valves into the central tube (fig. n), and through it into the reservoir (fig. s). The poison then can pass either through the hollow lancets (fig. i, i) or through the central tube (fig. n), between the three spears.

The lancets are held to the central

piece by projections (fig. t, t) from the latter, which fit into corresponding grooves (fig. t') of the lancets. In the figure the lancets are moved one side to show the barbs and the valves. Normally they are held close together, and thus form the tube (fig. n).

The parts of the sting are moved by muscles connecting the bases of the parts and extending from the parts to the large chitinous supports (fig. d). The fact that muscles connect the various parts, and the muscular character of the sack, explain how a sting may act, even after the bee is apparently lifeless, or what is even more wonderful, after it has been extracted from the bee. The barbs hold one lancet as a fulcrum for the other, and so long as the muscles are excitable, so long is a thrust possible. Thus I have known a bee dead for hours to sting. A wasp, dead more than day, with the abdomen cut off, made a painful thrust, and stings extracted for several minutes could still bring tears by their entering the flesh.

In stinging, the awl first pierces, then the lancets follow. As the lancets push in, the valves close the central tube, when the poison is driven through the lancets themselves and comes out by the openings near the barbs (fig. o, o). The drop of poison which we see on the sting when the bee is slightly irritated, as by jarring the hive on a cold day, is pushed through the central opening by the muscular contraction of the sack attendant upon the elevation of the abdomen, and extrusion of the sting.

Darwin suggests that bees and wasps may have been developed from saw-flies, and that the barbs on the sting are the old-time saws, transformed into barbs.

For the American Bee Journal.

A Good Bee Country.

W. P. Johnson, of Baldwin, Pa., inquires through the JOURNAL for a good location to establish an apiary: "a location where there is no doubt of the existence of large surplus honey crop." Plenty of bee pasture at all seasons of the year fit for bees to work, I presume he means. A great many persons would like to find such a location, no doubt. California, with its nervous climate, is left out of the question. I have studied this subject considerably, making use of every source of information conceivable, and have reached the conclusion that among the Blue-ridge Mountains, ranging from Virginia to the southern boundary of North Carolina, is one of the most desirable bee countries in the United States, California not excepted. It is either a surfeit or a



famine with California. The climate of that country may with propriety be termed erratic. One year the abundance of honey cannot be handled. The next year, there is not enough to keep the bees from starving.

The best evidence that the Blue-ridge country is an unfailing honey country, is found in the fact that the primitive farmers of that region generally keep bees; keep them in sections of hollow logs, rough boxes, and in the crudest and rudest manner, and yet many of them have from 50 to 100 colonies.

The latitude of North Carolina insures short winters. In the valleys and on the plateaus, vegetation is seldom, if ever, parched by drouth, the numerous mountain peaks condensing the vapor wafted from the Atlantic, and showers which are distributed through the entire spring and summer, keep plants always green and blooming. The forests are full of the best honey yielding trees and shrubs; white clover springs up on every foot of ground that is not usurped by trees or immediately under cultivation; buckwheat is one of the staple crops of the farms; and in some sections fruit blossoms afford rich forage for bees in the spring. Travelers say that it is admirably adapted to bees.

In describing the country known as high-lands, situated in Macon county, Southwestern North Carolina, Messrs. Kelsey & Hutchinson say, in their pamphlet: "The honey produced is of the very best quality, excellent in color, and even where kept in rough boxes or hollow tree-trunks, and with little or no attention, except to rob the hive two or three times a year, bees succeed admirably. Bee-keepers will recognize in the list of trees and shrubs many which furnish honey, and white clover is so abundant, wherever the timber is cleared away, that bees may always be kept with profit."

Prof. Richard Owen, M. D., State Geologist of Indiana, in his account of a visit to this mountain region of North Carolina, says: "From some cause or other, bees seem to thrive remarkably well, and to be great favorites in this part of North Carolina. We saw at one farm about 75 colonies, and heard of one farmer who owned over 100 beehives, 'bee-gums,' as the hive is usually part of a hollow-tree."

The topography, the metoric condition of climate—the elevation lifting it above intense summer heats—the latitude of 35° insuring short, mild winters, and the flora of the region of the Blue-ridge, all seem to combine to make the best bee country, taking one year with another, in the United States. E.

For the American Bee Journal.

The National Apiary.

W. WILLIAMSON.

I have read with pleasure, and I hope profit, the proceedings of the National Convention, last month. I find but one unkind remark in the whole proceedings and that seems to be directed particularly to me, by Mr. Heddon; who remarked after the reading of my short essay: "I am decidedly in favor of the project and would at once nominate myself for superintendent, with a salary of \$2.500 per year; would be willing to guarantee there would be no honey raised; it should be located at Petoskey."

When I wrote my essay I knew it would not be popular, as it evidently appeared to be in opposition to *private enterprise*. Mr. Heddon seems to have thought that it was intended as a *private enterprise* of mine, or that I expected to derive some pecuniary benefit from it, if put into operation; this thought was, and is as far from me, as the stars of heaven from earth. Because I happened to suggest a location, he seems to think I had a view of doing all he suggests he would do himself.

In answer thereto, I will say, that if any one were to fill the bill as itemized in my essay, and add a thousand acres of the land spoken of, with a fine residence worth as much as the whole, and compel me to live in the backwoods of Kentucky or Tennessee, or any other backwoods, I would not accept it as a gift. My professional business keeps me fully employed, and more profitably than any "bee business" has ever proven to me, or ever will, perhaps; and no such enterprise would induce me to quit it.

Lexington, Ky., Nov. 11, 1879.

[We do not think Mr. Heddon had the slightest idea of referring to Mr. Williamson. It was one of his playful expressions, alluding to his little Paradise.—ED.]

ERRATA.—In the surplus honey reports given at the National Convention, mine should read 17,000 lbs. instead of 7,000; it was about half and half comb and extracted; 7,000 lbs. would not pay expenses, say nothing about interest on capital, or pay for my own time.

On page 516, third line from bottom of last column is an error. I said that the report of English prices were 12 $\frac{1}{2}$ cents for comb and 7 to 8 cents for extracted.

JAMES HEDDON.



For the American Bee Journal.
My Plan for Wintering Bees.

DR. J. W. GREENE.

I do not know that I have anything new on the subject; still, my mite of experience may add something to the sum total—that we all need. During the years 1877 and 1878, I gave my assistant a per cent. of the honey and increase of my apiary for his services. Late last fall after "equalizing" the colonies, we divided by lot, so that the division was as impartial as it could possible be. When winter set in I packed my share in prairie hay against the east side of a tight, high, board fence, and he "let his alone" on their summer stands. Nearly all of his became more or less diseased and but a single one of mine. He lost 11 out of 25 during the winter and spring, while I lost but 1 out of 37.

Bear in mind, now, these bees were all the same kind, in the same kind of hives, in the same condition, and in the same apiary. The hives were all of the modified Langstroth pattern, with frames only 8 inches deep. The manner of preparation and packing was simple. I first made winter passages by running a bayonet-shaped hickory stick through the hive, comb, bees and all from one side to the other, quickly and easily done. Then I took a 2x4 scantling and set it on edge against the fence; then took another one and laid it down flatwise 18 inches in front of the first one. Then tramped prairie hay down tightly between them; then set my hives close together on this hay and these scantling; then packed hay between the hives, and between the fence and the hives as tightly as I could with a blunt end of a heavy hand-spike; then packed a second tier on the first, placing the bottom-board of the second tier directly on the thin honey board of the first tier. I packed them in this way three tiers deep, as tightly in hay as it could be done, leaving the full front of every hive exposed. The bees were allowed no ventilation at all, excepting the main lower front entrance, and in some cases only one third of that. They had no mats nor quilts about them, and not a bit of upward ventilation. I have tried every plan of wintering that I have heard of, and this has at least in one instance, beat all the rest, decidedly.

I forgot to state that after packing the bees I covered the whole so as to keep hay and hives dry. I shall winter again on the same plan this year. I also successfully wintered a number of

weak nucleus colonies, of three and four frames each, in one room of my dental office.

This has been the poorest season in the last twelve, in this part of the country, for bees; and yet we have abundant crops of fruit, grain and vegetables of all kinds. It is a mystery.

Chillicothe, Mo., Oct. 4, 1879.

For the American Bee Journal.
Bee Items from Mississippi.

OSCAR F. BLEDSOE.

I have been keeping a few colonies of bees for several years past, so as by practical experience in connection with reading, to learn bee-culture and also to demonstrate to myself whether or not in this locality bee-culture can be made pecuniarily profitable. I am encouraged to believe from the facts in my own case, that the latter point can be demonstrated in the affirmative. I commenced the present season with 1 colony of Italians (obtained last year as a nucleus) and 11 colonies of blacks; 25 in all. In addition to a quantity of brood to make nuclei and one large natural swarm, the original Italian colony, has given something over 100 lbs. of comb honey.

I think it may be safely asserted that a good colony of Italian bees, except in a year of total failure, yield from 50 to 200 lbs. of honey, besides enough to winter on. Of course they should be in a good hive, and be properly managed. The Italians being virtually moth proof, the only draw back to successful bee-culture here is removed. A swarm put in a good hive is a fixture. There is no necessity for removal or labored preparation for winter. Only occasional attention is needed, except in time of swarming and harvest.

The main point is of course the honey resources, which are abundant. Pollen is gathered every month except Nov. and Dec. There are a succession of flowers commencing with willow and red-bud, followed by fruit blooms, clover, poplar, and many others. There are two plants that excel all others in this locality and I will mention them particularly. The first is what is called by some the swamp woodbine. It grows in rich bottoms, covers all small growth in its reach and often climbs to the top of the tall gums, throwing out its graceful festoons of white flowers from the outer branches. It blooms during July—the yield being most abundant about the middle of the month. There are great quantities of it within bee



range of my apiary—enough I suppose for 500 colonies. The honey is of a beautiful light color and of delicious flavor.

The other plant commences to bloom on the first of August, and is commonly called "August flower" and "bitterweed." It is a species of chamomile. I think it was introduced here in 1869-70, with the Canada thistle, by the hay fed to horses in the barracks of the federal troops. I notice that it is spreading in the country around and as yet has well defined limits. It occupies all the commons—every spot at all fertile—and yields abundant honey of golden color, all through August to about Sept. 20. The objection to it is, that the honey is bitter and of course not salable. The apiarist would have to utilize it for winter stores, comb-building, making nuclei, &c.

After August flowers we have golden rod, asters, the butterfly weed, &c. My bees are still gathering pollen and small quantities of honey.

But all sources of honey amount to nothing unless the bee-keeper adopts a proper uniform system and a proper hive. I commenced with a regular Langstroth hive, but came to the conclusion that there was too much floor room to allow the bees to defend themselves to the best advantage against the moth and other enemies; that being longer from front to rear, than from side to side, was an objection, especially with reference to preserving heat in winter, that a hive should be of such a size as to necessitate a second story for winter and summer in order to allow upward storage, and to let pent up heat and corrupt air pass up. Moreover a long frame is disadvantageous in making nuclei and swarms, getting straight combs, handling, &c. With these views I shortened the Langstroth frame and except for nuclei, use a second story. The first story is a perfect square $9\frac{1}{2}$ inches high, the tops of the frames being exactly even with the top of the sides; the second story projects beyond the first story to the right and left. The wings of the second story are, however, cut off from access to the bees by division boards until they need this extra room. There are in first story 1,450 cubic inches—in the entire hive about 4,000 cubic inches. A swarm is hived in the first story, a cloth prevents access to the second story. As soon as the bees have filled the first story, the combs are examined and all drone comb removed. They are then allowed access to the second story, division boards preventing them from occupying the wings. When they be-

come crowded the division boards are removed, the combs spread apart and empty frames or combs put in. They work with a rush to fill these empty frames. The first story is never disturbed as a rule, no honey, at least, is ever taken from it and it is only looked into only for purposes of artificial swarming. All manipulations, removal of honey, &c., are confined to the upper story. I think it highly advantageous to the bees to leave a portion of their domain entirely undisturbed. They work with more energy. My first story being small, no loss is suffered from this course. When full the entire hive holds 25 frames. The greater part of my Italians are in these hives with 25 frames and I will let them remain just as they are all winter. They have more stores than are necessary, but that is an advantage. Bees are not gormands.

By the above plan I think the wants, necessities and aspirations of a colony of bees with reference to this climate are satisfactory and that with the proper attention, every drop of honey they can possibly gather will be obtained.

Grenada, Miss., Oct. 10, 1879.

For the American Bee Journal.
To find a Black Queen in 3 Minutes.

C. W. TAYLOR.

I allow myself 3 or 4 minutes to hunt up a black queen at this season of the year, after the honey season is entirely over. I have but 3 frames to examine, and can frequently lift up the frame she is on, at the first attempt. To do this, the hive must be prepared beforehand. I first lift the honey-board and if there has been a space of more than 5-16 allowed between the board and the top of the frames, it will be filled with comb and honey; I then prop up the honey-board about 3 or 4 inches, and close the hive until the bees have cleaned off the honey. As soon as this is done, I carry away the honey-board out of sight of the bees, and have a clean one ready to take its place. I now clean off the tops of the frames, and cut out the fastenings between the frames, collecting carefully all the pieces of wax and putting them out of sight. I then loosen all the frames, and draw over toward the cool side of the hive all the frames but 3, on one of which the queen is to be found. In drawing them over I arrange them so closely that a bee can just pass between them, this will leave a space of over 1 inch between the main body of frames, and the 3 that

are on the warm side of the hive. In arranging the frames in this way, should it take more than 4 or 5 minutes I make two operations of it. The bees are now ready to be fed. I use a very small feeder, preferring one holding not more than a gill, as the feeding must not be overdone. I place this feeder exactly over the center of the middle frame of the three, and feed regularly every night or morning, and on that middle frame the queen will commence laying and can easily be found, especially after the eggs begin to hatch. I have fed in this way in the evening and found the queen laying prolifically the next day.

Oakford, Pa., Oct. 15, 1879.

For the American Bee Journal.
Items from North Carolina.

R. C. TAYLOR.

Many of my friends, who keep bees are adopting the Langstroth hive. Many also have bought Italian queens, and think the bees are so far ahead of blacks, that there will not be a black bee in 40 miles of us, in a year or two.

BEES CARRYING CANDY OUT OF HIVES.

About one month ago, a gentleman of our town, Mr. Davis, told me that he intended to destroy several colonies of black bees he had, in order to start in the spring with none but pure Italians. I begged for the little fellows to be spared, and he told me that if I would drive them out of the box-hives, I could have them. I did it at once, and as I had any number of queens, several of which was tested, I at once mixed two of his colonies, destroyed the black queens, and sprinkled all, even the new tested Italian queen with peppermint syrup, shook them lively in the box and emptied in front of hive.

The queens were received in good order, and fearing they needed help, I gave each colony one frame of nice pure coffee A sugar candy. Honey was not coming in to amount to anything, yet the bees commenced picking that candy out, and are at it even yet.

I took out one frame, and gave it to a colony of pure Italians, and they seemed to understand that it meant business and cost 10 cents per pound, and was too good to waste; they carried it into their cells lively, not taking one particle outside of the hive!

EXPERIMENTING.

One colony of bees was devoted to the above heading. I swarmed them

artificially through the year, making nine good colonies (all have plenty of stores for winter) and taking 25 lbs. of honey from the parent colony. I used foundation of course, and got the surplus in 1-lb. boxes. The season here upon the whole, has been very poor and but little surplus was stored. During the early fall, honey came in for a few days tolerably fast—even causing many to swarm. Very little swarming in the early spring, the usual time in this latitude.

HONEY MARKET.

Our home market has been very dull, honey in many instances selling in comb for 15c. per pound. Mr. Bloom, I see by last month's issue of JOURNAL, sold, so he says, 150 4-lb. boxes at \$1.00 each. My friend G. H. Lamb, of Wilmington, sold his in 1-lb. boxes, at 25 and 30 cents per pound, and thought he was doing poorly!

I think extracted honey would pay here better than comb. I think perhaps I shall purchase an extractor next season, and see how it will "pan out."

WINTERING BEES—FOUL-BROOD.

Have never heard of a colony dying through the winter here, but have seen them "pretty low" from starvation during the spring.

Our bee-keepers never have seen a case of foul-brood—many never heard of it.

Wilmington, N.C., Nov. 1, 1879.

For the American Bee Journal.
Comb vs. Extracted Honey.

LOUISIANIAN.

I have been a subscriber to your JOURNAL for two years and have found everything I could wish for in it, except a comparison of the profits of comb and extracted honey. Down here we raise extracted honey almost entirely; in fact I don't know of an apiary that is devoted to comb honey. What I would like to have compared, is: How many more pounds of extracted honey can be gotten from a hive than comb honey, and whether the higher price paid for comb honey will make up for the greater amount produced by extracting.

Then when one has no home market cannot the extracted honey be shipped for much less cost than the comb? I ship mine in 40 gal. barrels, or 480 lbs. and get it to the merchant in New Orleans for about \$1.00; the barrels cost \$1.60 each, and can be bought within a



mile or so from home. I would like to hear from some one who raises both, the costs of selling and producing each kind. The year 1879 has been the worst year ever known in Louisiana, colonies not averaging more than one gallon each of surplus.

[We have no doubt but that so much more of extracted honey than of comb honey can be produced to pay the producer better, especially if he is sure of a market for it. As to the exact cost of production, we would like to hear from those who have made it a study.—ED.]

For the American Bee Journal.

Spring Dwindling.

N. H. BROWN.

In my communication published in the August number, I promised to give what I thought was the cause and cure of spring dwindling. This trouble, undoubtedly, has its origin in a variety of causes, such as the long confinement during the winter months, which enfeebles the insect, and this, added to the sudden changes of temperature incident to early spring, causes a great waste of their numbers; and then, bad honey, lack of pollen, queenlessness, and a variety of other incidents, may cause a diminution of numbers; but none of these causes can account for the wholesale loss reported by some bee-keepers in the periodicals and conventions, for in most of the above cases a fertile queen and good flow of honey in the flowers will soon cure the evil.

It is note worthy that in all cases of serious loss complained of in the discussions on this question, that the bees have been wintered either in the cellar or some place requiring their removal from their summer stands. In fact, some very respectable authorities have traced the cause of the trouble to indoor wintering. I believe this gives a clew to the cause of the trouble, not as a necessary consequence of housing, but indirectly.

It happens in this way; the bee-keeper some cold day proceeds to take in his bees and store them in the cellar or house. Not knowing or disregarding the instincts of the insect, he fails to properly mark his hives and stands, so as to return them when spring comes to their proper location, the result is that when they are put out for a fly, probably 4 out of 5 are not at home, and when they attempt to return they go direct to their old location; which being occupied by strangers, they are either driven out

to wander about and perish, or are slaughtered at the entrance.

Last February I put my bees out for a fly on a warm day; one of them I placed in a new location, thinking to establish them there; but in 15 minutes one half of the bees from that hive were circling about their old location utterly lost, and would undoubtedly have perished had I not returned the hive there. Another hive was accidentally faced the opposite direction from that occupied the previous summer. An hour or two afterwards, while going by, I observed as many as a pint of bees on the side opposite, vainly trying to effect an entrance.

When I remove my bees to the cellar, I number each hive on the front side, placing the same number on the front side of the cap; the hive is then removed and the cap taken off and placed on the stand, the numbered side where the entrance should be. Consequently, when the bees are put out for a fly or permanently placed on their summer-stands, there need be no mistake about the exact location of each colony; and should any one make such a mistake, either when putting out for a fly or permanently, they may be assured they will have a bad case of "spring dwindling."

Apiculture is a decided failure in this section this year. I took 45 lbs. of extracted honey—no box honey; have 42 colonies, out of 43 wintered. The only one wintered out-doors, after a vain struggle for existence, succumbed in September. Eight out of the 42 will winter without feeding; 6 of these are pure Italians, and 2 hybrids; 3 of these six Italians furnished the 45 lbs. of honey. All the rest, except 2 queen-breeders are either blacks, hybrids, or Italianized in June of this year; consequently too late to assert their qualities this season. Who says black or hybrid bees are best?

Plainview, Ill., Oct. 6, 1879.

For the American Bee Journal.

Queens Duplicating Themselves.

J. H. MARTIN.

We wish to inform Mr. A. F. Moon, that if he will hold his proposition open, as given on page 400 AMERICAN BEE JOURNAL, until next spring, we will send a queen to Prof. Cook, that will duplicate herself every time. I have had two queens this summer that have produced queen daughters that were uniformly as light-colored and marked just like the mother. I will not say

that they would bear a microscopic examination, for I never looked at them so closely; but looking at them as we ordinarily look at a queen, I could see no difference and I reared several queens from each of them. These queens I received from Mr. Henry Alley.

It was well along in September when I saw Mr. Moon's article, and I thought it was rather late in the season to apply, as we find it quite difficult to rear queens here in October. If he will make his offer earlier in the season, we will try and accommodate him, for we know we have such queens; and furthermore a daughter of one of these queens has this fall reared three exact duplicates of herself, (i.e.) examined ordinarily, not microscopically.

Hartford, N. Y., Oct. 9, 1879,

For the American Bee Journal.

How to Secure the Largest Income.

DR. C. C. MILLER.

Of a given number of bee-keepers only a small number can pursue specialties. All cannot publish bee papers, manufacture supplies, or rear queens, and make a living at it. I have given up all other business and devote my entire time to the apiary. I have no patent hive to sell, neither bees nor queens, nor any thing but the one item, honey. As a representative, therefore, of the mass of bee-keepers, I ask the question, how to secure the largest income? not because I think I can answer it, but because I honestly and anxiously desire light upon it, such as may be brought out by discussion. I am well aware that the question is a very comprehensive one, and may really embrace the entire subject of bee-keeping; but aside from the topics discussed in the books, there are several points upon which light may be thrown by the experience of the veterans in the business. Some of these points I may be allowed to suggest: Prominently comes up the question, "Shall I devote my entire time to the apiary, or shall I attend to some other business in connection therewith?" For many years I kept a few bees, devoting part of my leisure time thereto, and found it very pleasant, but after the number of colonies increased to 100 or 200 it was not so satisfactory, and for the last year or two I have given up all other business to solve the problem whether my bees would furnish me with bread and butter—a problem not yet fully solved.

Mr. Palmer, I suppose, will tell us to raise small fruits, and possibly that may work well in connection with

apiarian pursuits; but my experience with a few acres makes me afraid that gathering the crop would come just at the bee-keeper's busiest time.

Mr. Gastman will tell us to teach, but the man who spends 9 or 10 months of the year in the school-room, unless he has a constitution of iron, has no business with more than enough bees to serve as a recreation. Whilst inclined to the opinion that apistical pursuits had better be followed singly, the question is an open one and I am ready for light.

Is there any limit to which increase of colonies can be profitably carried?

What is the limit of colonies in one apiary?

Shall I attempt to keep more than one apiary?

The general teaching has been that about 100 colonies are enough for one location. Undoubtedly the pasturage has much or all to do with this question. I have some 200 colonies in my apiary, and I am really uncertain whether less would be better or whether double the number could not find enough pasturage on the same ground.

Will it pay to raise crops especially for honey?

I have sowed a good many pounds of alsike, with poor results so far; but the seasons may have been unfavorable for growth. I am of the opinion that if I had this year sowed several acres of buckwheat I should have been the gainer by it, for although buckwheat honey brings a low price, it comes at a time when it can be laid up for winter stores, and if any surplus is taken it is so much clear gain; provided, no other plants are yielding honey at the same time. Melilot, catnip, &c., have their advocates; but can any one, from actual experiment, give us proof that either of these can be profitably planted by the acre.

Passing by the questions as to whether honey shall be in the comb or extracted, foundation used or not, and if used, whether only for starters or full size of surplus box, I come to the important and somewhat perplexing matter as to the disposal of the honey. Much good advice has been given as to developing the home market to which I give a hearty assent, but I am sure it is not to the interest of every large producer to depend entirely upon his home market. So long as I can get nearly or quite double as much for my honey in New York or Chicago as I can in the markets near home, I shall not spend much time in the business of development. I believe it is to the interest of bee-keepers that honey shall become a



staple article, so that there shall be some uniformity of price in different places and not, as I have known the present year, honey sold at 10c. per pound in one town and at 20c. in another town 12 miles distant. Probably in time this matter will regulate itself, but a little concert of action may hasten it.

It is only recently that honey is found quoted in the market reports, but it is now considered of consequence enough to secure a regular quotation in some of the leading daily papers. I am of the opinion, however, that the quotations generally given are not in the interest of those who produce the honey, their tendency being to "bear" the market. We should at least look for reliable quotations in our own bee publications, but they are just about as unreliable as the dailies and weeklies. Last fall I made a somewhat careful canvass of the commission houses and other places where honey was sold at wholesale in Chicago, on South Water street, and vicinity. I think I omitted no place in that locality where honey was sold, and at a rough guess I should say I found honey at about 40 places and the poorest comb honey I found could not be bought as low as the highest prices quoted for the best comb honey. This spring I sent to a commission house in Chicago, the culls of my honey, none of it first-class, which was sold for something over 14c. per pound, and at the same time the Chicago papers, the "old reliable" A. B. J. included, were quoting "white clover in single-comb boxes, 10 to 12c." Looking at the last quotation in the AMERICAN BEE JOURNAL, Sept. number, I find single-comb, white, 10 to 12c., and at the same time commission men were reporting sales at 16 to 18c. One of the troubles, about our smaller markets particularly, is that many who raise only a few pounds of honey take it to the nearest market and sell for whatever is offered, without any knowledge whatever of what they ought to receive, and even if they do look at the quotations, they will sell much below the real market. Within 12 miles of my home I saw white clover honey, this year's crop, in prize boxes, which the grocer had bought at 10c. per pound of a man who makes a business of raising honey, and the last I knew had over a hundred colonies of bees, and he takes the bee periodicals, too. I believe he had sold all his white honey at that price.

Another trouble is the large number of houses at which honey is sold in our cities. Most of them know little about honey, and a really nice article will be sold for about the same as the poorest.

The producer should know something about the actual state of the market, and when he makes a shipment should send instructions not to sell below a certain price, unless he has perfect confidence that the consignee is fully posted and will get full value. Is it not better to ship to a house which makes a specialty, if not a sole business, of selling honey?

If the National Convention will influence the Chicago papers to give us reliable quotations of the honey market it will not have met in vain.

Marengo, Ill., Oct. 1879.

[The above communication was written by Dr. Miller, as a contribution to the Essay Department of the National Convention, but by an oversight on his part, was not mailed till after the publication of the November number of the JOURNAL. Referring to the want of reliability in the quotations of honey, as given by the daily and other papers, we can only express the opinion that they must necessarily be nominal so long as there is not a recognized grade in quality, and uniformity in the style of preparation for market. Last spring, for several weeks, the daily papers of this city made no changes in their quotations for honey, as the article had become a drug on the market, and the demand was quite restricted. At that time we held several hundred pounds, for which we had in December, 1878, paid 13c. per lb., and which we found exceedingly difficult to sell at 10@11c., even in small lots. The last of it (about 1,000 lbs.) was sold in October at 10c. This honey was in excellent shape (2 lb. prize boxes) but only medium in quality. It is possible, in some instances last spring, much higher figures were realized even for "culls," especially if the parties shipping had relatives or friends engaged in the commission business, or themselves thoroughly canvassed South Water street. And further, it does not necessarily follow, that among 40 houses we can buy honey at the highest figure they are paying. By referring to page 342 AMERICAN BEE JOURNAL, August number, it will be seen we advised bee-keepers to "make haste slowly" in throwing their product upon the market.

White clover honey was then quoted "in slow demand at 12@14c.," and a considerable shipment would have been difficult of sale at much reduced figures. In September, a party having several hundred pounds of white clover honey, and unable to get an offer of more than 11c., on South Water street, was about to close out on an offer of 12c. made by a Madison street grocer; but, consulting with us, held to his honey till October 21st, then accepted our offer of 15c., which was the highest bid he could get. We have at times found it difficult to sell honey at the published quotations; and quite as often could not fill orders at those figures. That at a distance of 12 miles from his town, Dr. Miller has seen white clover honey which had been bought by a grocer at 10c. per lb., is not without precedent; last spring white honey retailed on West Madison street, in this city, at 12½c., while *some* commission houses on South Water street were holding it at 15c., in job lots.

We doubt whether the National Convention could "influence the Chicago papers to give reliable quotations of the honey market;" and we further doubt whether "reliable quotations" are possible, until a sufficient number of commission houses, with ample means to handle all the crop, may make of honey a specialty. We see no way to get "reliable quotations," unless those quotations be made by the apiarists themselves. To this end we made the following suggestion in our "Report of the Representative to Europe": "We should agree upon a price that will pay for production and at the same time not retard consumption, and then all should be guided by this, and thus aid in establishing a regular market price for honey, the same as is obtained for wheat, corn and oats." When our Societies and Conventions have united the bee-keepers in one fraternal class, and that fraternity works each for the other's welfare, thereby advancing his own, then may we expect "reliable quotations," for they will be based upon cost of production, and supply and demand.—ED.]

For the American Bee Journal.
Bee-Keeping in Idaho.

H. Z. BURKHART.

Perhaps the readers of the JOURNAL would be pleased to know how the busy bee "improves each shining hour" out here in the sage-brush lands of Idaho.

Upon my arrival last November, I learned that there was only one colony of bees in Southern Idaho, and these were black bees; they were hived in the attic of an out-door cellar, and I am told they neither increase nor produce surplus honey. I learned, also, that a few years ago a good many bees were brought here, but from some cause unknown they all died. This discouraged subsequent attempts at bee-keeping until quite recently.

Having some experience with bees in the State of Iowa many years ago, I determined to "try my luck" here in the spring. Accordingly, I wrote to Salt Lake City, Utah, and had a strong colony of hybrids (I ordered Italians) forwarded by express, at a total cost of \$27.25. They arrived in good condition April 17th, and that, too, after riding 250 miles on a stage-coach. The fruit blossoms were just passing their best season, and the little toilers went to work with a right good will. Much to my surprise, they swarmed on the 8th of May, and caught me with no hive ready. I put them into a box until the next day, when I put them in a Langstroth hive. This colony gave off two swarms, June 17 and July 2d, so that I now have 4 strong colonies in fine condition for wintering. In addition to this increase, each colony has made some surplus honey, in all 109 lbs., mostly from the old hive. Five-pound boxes readily bring \$3.00. I have sold to the amount of \$31.25, and still have enough left for spring feeding, if it should be needed. There is no natural forage, the supply chiefly coming from the numerous clover patches and from the vegetable gardens and ranches. We have no rains in summer. All vegetation depends on irrigation, thus securing a constant flow of nectar. Thus far my prospects are good. The winters are not severe, but subject to frequent and rapid changes of temperature. I have packed each hive on its summer stand, after the manner described by Mr. Moore, of Byron, N. Y., in his paper read at the National Convention last month, and confidently await their coming out in the spring.

Boise City, Idaho, Nov. 10, 1879.



Conventions.

Central Kentucky Convention.

The fourth semi-annual convention of the Central Kentucky Bee-Keepers' Association, took place in Lexington, on Tuesday, Oct. 7th. Convention called to order at 10 a.m., President H. C. Hersperger, of Jessamine, in the chair; calling of roll dispensed with; treasurer's report received and filed; minutes of the last meeting read and approved. This being the regular time for election of officers, on motion of C. H. Bean, Sr., seconded by J. W. Egbert, it was unanimously resolved that the following present officers hold over until the first Tuesday, in May next.

President—H. C. Hersperger, Jessamine Co.

Secretary—W. Williamson Lexington.

Treasurer—J. M. Holman, Fayette Co.

Vice Presidents—J. W. Rose, Fayette county; John F. Bean, Montgomery; J. W. Egbert, Mercer; Thos. A. Hutchcraft, Bourbon; Thos. S. Williams, Woodford; Dr. Jasper, Jessamine; W. B. Herring, Scott.

The President said it is customary for a retiring President to deliver an address, but as by the resolution just passed, he would not be permitted to retire until the May meeting, he would promise his address then, for really he had neglected through a press of business and poor health to prepare any formal address. He said in fact I did not expect to be with you to-day. He arrived in the city yesterday, on his way to Baltimore, had friends in Cincinnati waiting for him, and telegraphed he would meet them Tuesday instead of Monday night. The Secretary had persuaded him to stay over and he had done so. "But my heart is more on my journey to the home of my youth." He then said "but in regard to bee-keeping I can only give you my experience for the past six years, as follows, giving the average amount of honey per colony: In 1874, 83 lbs.; 1875, 60 lbs.; 1876, 66 lbs.; 1877, 66 lbs.; 1878, 66 lbs.; 1879, 15 lbs.; total average per colony for 6 years 59½ lbs. Average price for 6 years 20 5-6c. per pound. Average yield per colony \$12.35-100c. This is more than we can do with sheep. Can we do as well with any other farm product? In what other vocation can we make as much money considering the amount invested? True, this year the honey crop has been almost a failure, but some years our wheat, corn, and other crops fail, but do we stop? No we go on just as we should in bee-culture.

On motion the President appointed a committee to propose questions for general discussion. The following were read and approved:

1. The best method of managing natural swarms.
2. The best method of artificial swarming.
3. Are drones from an unfertile queen capable of fertilizing queens? Or, are drones of fertile workers?
4. The best method of wintering?
5. The best spring management to produce the greatest amount of honey.

John F. Bean, of Montgomery, then read

the following essay, particularly for the benefit of farmers who keep bees, and not for the progressive bee-keepers, as no such warning is necessary:

Hints to Bee-Keepers.

Three years ago I determined to make bee-keeping a specialty, and have made it a careful study. I have carefully noted the wants of the bee-keeper, the ups and downs, the prevailing ignorance, and the wholesale swindling by patent bee-hive men. I desire particularly to call your attention to this bee-hive swindle. For two or three years past, our country has been over-run by patent bee-hive men. They have been among us like the western grasshopper, trying to devour everything in sight. The beginner and the ignorant have been duped by these wily tongue-gentry, and hundreds of dollars have been taken from the country, for beehives and fixtures that were worthless.

Kentucky is twenty-five years behind in bee-culture. Her people are many of them entirely ignorant of all the modern improvements, and here is where they are caught. Many of them are desirous of making an improvement, and in looking out for a hive to begin with, most invariably choose the most complicated.

There is only one way to stop this swindle and overcome the prevailing ignorance. It is well known that where bee periodicals circulate, the patent vendor vacates; the two cannot live together. Let it be our aim to encourage their circulation. I do not wish to convey the idea that I oppose patents. It is to the swindlers I allude, men who are claiming patents where none exists.

I might mention many things, but space forbids, I will simply say this, that every good feature about the hive is free from patents; when the Langstroth patent expired, and the patent on Clark's bevel edge frame, the whole thing went overboard. All the patent features I have seen since then only lessens the value of the hive. A simple box with movable frames to lift out at the top, with necessary arrangement for surplus honey, is the best hive. Remember success depends entirely upon you, not upon a hive; choose whatever frame you like, Langstroth, Quinby, American or Gallup, and never have but one size. Don't allow anyone to persuade you to use the drop-bottom slide-frame back-door things with moth traps, draws and glass, you don't want it; let it alone if you want to avoid trouble.

I desire also to call your attention to the condition of the bees at this time. Having examined a great many colonies in different portions of our county, I find many, (perhaps two-thirds) have not stores enough to last two months. I am satisfied half of the bees in Kentucky will die this winter if not fed. Now is the time for feeding. I would urge gentlemen from different counties to write a few bee notes urging bee-keepers to attend to them at once. A few suggestions in your county paper may save many bees. The failure of the honey crop throughout the United States this season and the mortality among the bees in the North and West last winter, combined with the losses that are sure to follow before spring,

may lessen the number of colonies one-half. It may be two or three years before we again have such a honey crop as we had last year. The European demand is becoming greater every year. Taking these things in consideration, will it not be best for us to care well for our bees? Let it be the care of every one to get up their honey in the most desirable shape so that it will command the best price; by this we will build up and not tear down our markets.

AFTERNOON SESSION.

Convention called to order by the President; after a few passing remarks he requested J. F. Bean, of Montgomery, to take the Chair.

Managing Natural Swarms.

Mr. Bagby said he was little troubled with that, as he always prevented swarming as much as possible; but if they did swarm in the honey season, he would put them back into the old hive again and keep his colonies full and strong until fall, when it is an easy matter to divide them and make as many colonies as desired.

Mr. Dean said he had practiced Mr. Hergenreder's plan, when he knew they were about to swarm he took a new hive and put it where the old one stands; take a few frames of brood, put it in a new hive, move the old one a short distance, and the bees returning will enter the new hive, feel contented, and probably imagine they have actually swarmed and go right to work.

J. R. Williamson said when bees swarm naturally it is sometimes difficult to get them to stay in a new hive, particularly when the scouts have previously selected and determined on a place to swarm to.

Mr. Spurr, Jr., said he had been in the bee business several years, and he did not think or believe in the theory of bees sending out scouts to select a location.

Mr. Bagby said that he firmly believed honey bees do send out scouts, and has seen it demonstrated.

J. R. Williamson said a good plan of satisfying a swarm to stay in a new hive after swarming, which has proven almost infallible, was to take a frame of brood from an old colony replacing it with frames of empty comb, or comb foundation; put the frame of brood in the new hive; the bees will rarely ever leave brood.

Artificial Swarms.

J. R. Williamson said a very successful plan is to take frames of brood from the colonies that are strongest or are about to swarm, replacing each with comb foundation, introduce a young and vigorous queen to each colony made, or have queen cells, remove the old hives if you choose, fumigate or smoke all colonies well during the operation, and all will be well.

Mr. Cunningham said he approved of this plan, although he had not much experience making artificial colonies; generally lets his bees swarm naturally, but did not believe that natural swarms are best.

Mr. Herring said he was young in the business, but even in this poor season he had taken 75 pounds of surplus honey from one colony; had always made and built up weak colonies with comb foundation.

Are drones from fertile workers or unfertile queens capable of fertilizing queens?

Mr. Bagby said the cage of drones I hold in my hands are drones of a fertile worker, and it is a remarkable fact that she had chosen all the largest cells to lay in, and never laid an egg in worker comb until all other comb was filled.

J. R. Williamson said he had never thoroughly tested the matter whether drones of a fertile worker are capable of fertilizing, but it is his intention to test the matter, and has no doubt of the results being satisfactory.

Mr. Dean said it is impossible to test the matter, and rather ridiculed the whole proposition.

The Secretary said there is nothing impossible. Before telegraphy, steam, and hundreds of other wonderful inventions were discovered, the men that invented them were hooted at as lunatics, until the grand realizations were accomplished facts. We are all the instruments of a Supreme Being, creatures subordinate to His will, and surely all will acknowledge nothing is impossible with God.

Dr. Van Antwerp said he had not the least doubt but that drones of fertile workers were capable of fertilizing a queen, and would like to see the matter thoroughly tested. It would require great care to carry on the experiment; it could only be satisfactorily proven where other drones are entirely absent. As he was told by a gentleman who keeps bees on Put-in-Bay Island, (which is about three miles square) that all his bees were blacks, but they had undoubtedly met some Italian drones. So that fertilization in confinement would be the most positive proof, and if he had control of a large conservatory filled with beautiful flowers, he firmly believes he would prove the matter of fertilization in confinement to the satisfaction of all bee-keepers.

The Secretary said the matter under discussion is one of the utmost importance to every intelligent apiarist in the world, and the most important question that has ever been submitted for consideration before this Association.

J. R. Williamson said he had under consideration for a long time a plan of fertilization of queens in confinement and had not the least doubt of its accomplishment.

Mr. Bagby said the only experience of the kind he ever had, when fertilization in confinement was accomplished, was when once he had a crippled queen that could not fly, he got a crippled drone and put them together, the next time he went to see the queen she was fertilized, and the drone dead; he thought he had struck a bonanza, and crippled a lot more queens for the same purpose, but his hopes were "blasted," his fortune gone.

Mr. Cunningham said he hoped Mr. W. would go on with his experiments, and wanted to see every encouragement extended to any person who would give time, labor and attention to try and discover anything of so much value to the bee-keeping interests.

The best method of wintering bees?

Mr. Bagby said he worked or managed



over 400 colonies of bees, and in regard to the fatality among bees last winter, it was a very severe winter. His hives that were covered with snow came through the winter in the best condition. Holes or winter passages ought to be cut in the combs, so that the bees could pass from one comb to another for feed, without having to pass either over top or bottom, when they are liable to be chilled, and never return to the cluster. He believes that ten colonies starve to death to one dying from any other cause; and no matter what other protection is given them, never fail to have winter passages.

J. F. Bean said that if quilts were put on top of frames, and leave room for bees to pass underneath, would answer instead of winter passages.

Mr. Dean said he used chaff cushions on each side, on inside of hive, and one on top, which kept them warm all winter. He had lost half the colonies he had, but it was done through carelessness in fixing them in winter time; he used frames of candy for food.

W. B. Herring said he had left all his on summer stands and simply took old coffee sacks, put chaff in them, placed them on top of honey-boards, and he lost not one colony; all came through the winter safe, though some were rather weak.

Mr. Bagby said that it is very important to have winter passages, as he has known plenty of colonies to die of starvation and still have plenty of honey in the hive.

Mr. Egbert said he approved of both plans spoken of, but he thought the most important matter was to have young and vigorous queens, keep them laying as late in the fall as possible, and go into winter quarters with plenty of young bees.

Mr. Williamson said he simply encased the Langstroth hive in a rough box, with an air space all around, which proved very satisfactory.

Italianizing an Apiary.

Mr. L. M. Green asked the best way to Italianize an apiary when surrounded by the black bees of his neighbors.

The Secretary said the safest way was to Italianize all his neighbor's bees, or rear Italian drones earlier than blacks appear.

Mr. Bagby approved of the plan, or keep enough queens over winter to supply all colonies in the spring.

Mr. Egbert asked which is the best kind of Italian bees? Said he loved Italian bees, and half the good has not been told of them.

The Secretary said leather-colored queens were general favorites here and in Italy both, at least among the most advanced apiarists; they are good workers, vigorous and profitable, although a great many purchasers want the bright golden queens.

J. R. Williamson said in rearing queens he had always noticed that in very warm weather the young queens will be brighter than in cool weather; that the first queens hatched among a lot of cells, are generally the best and most vigorous queens.

The Secretary said he had visited a large apiary this spring, and found all the best marked bees very small, and the hybrids large; asked how long the queens had been

used for breeding from without crossing; they had not been crossed for years. The small bees were undoubtedly the result of in-and-in breeding.

Mr. Bagby said to prevent in-and-in breeding, it is best to raise drones from one queen and queens from another, both of different stock.

The following resolutions were adopted:

Resolved, That this Association appoint a committee of three to enquire into the present State law (if any) as to its force in regard to bee traps or the unnecessary destruction of honey bees, and if said law is deficient in any respect, to draft or cause to be drafted, such a law as will protect the interest of the bee-keepers of Kentucky, and present the same to our next Legislature to become a law. Be it further,

Resolved, That the members of this Association determine, and request the bee-keepers of Kentucky to denounce the unnecessary killing of honey bees, and report any person or persons detected in the willful destruction of said bees.

The President appointed the following committee: W. Williamson, F. P. Scarce, W. R. Moore.

Many other questions were asked and discussed. There was an exhibition a good display of bee-keepers' supplies and several patent bee hives.

As it is the intention hereafter for the Association only to meet once a year, and then for two days instead of one, it was, on motion, unanimously resolved that the Convention adjourn, to meet in Lexington, on the first Tuesday and Wednesday in May next.

W. WILLIAMSON, Sec.

West Virginia Convention.

The Bee-Keepers' Union Association met at Fairview, West Va., on Sept. 23, 1879, and temporarily organized by calling Mr. J. A. Buchanan, of Holliday's Cove, to the Chair, and Thos. Lloyd, acting as Secretary.

On motion of Mr. D. H. Yant, the Association proceeded to organize permanently. The Chair appointed a committee, to nominate permanent officers, consisting of H. S. Shull, A. J. Fisher and D. H. Yant.

The following were appointed a committee on constitution and by-laws: D. H. Yant, Thos. Lloyd and H. Fisher.

The committee on nomination reported the following, who were duly elected: President, John A. Buchanan, of Holliday's Cove; Vice Presidents, Henry Fisher, of East Liverpool; Philip Freshwater, of Paris, Pa.; Secretary, Thos. Lloyd, of Fairview, W. Va.; Treasurer, R. H. Brown, of Fairview, W. Va.

After adopting the constitution and by-laws the Association, adjourned to meet at 1½ o'clock, p.m.

AFTERNOON SESSION.

Called to order, President J. A. Buchanan in the chair. On motion, an enrolment of members was made.

Italians vs. Black Bees.

The Association being now fully organized, the question, "Are Italian bees superior in every respect to black or native bees?" was taken up and discussed in the affirmative by D. H. Yant and A. J. Fisher, whose

opinions were that the Italian was superior to the black bee for working in top boxes. They called for the proof of the Italian bees working on red clover. They said they favored the black bees.

Mr. Alpheus Chapman had kept bees for upward of 50 years; he had better success during the past 20 years since he operated with the Italians; the Italian bee is less liable to the diseases prevalent with bees; the Italian bee was the best worker out; hybrids were also good. Advised the ladies to keep the Italian bees on account of their amiable disposition and beauty.

Mr. J. A. Buchanan was of the opinion that the native or black bee, when properly cared for, would produce as much honey as the Italian, and be as prolific.

Mr. H. Fisher gave it as his opinion that the black bees are superior to the Italian, acknowledging that Italians are better for increase of colonies, but not for production of honey.

Mr. Joseph Brunton stated that his blacks kept better than his Italians during the past winter, claiming that hybrids produced more honey for him than any other bees in his apiary.

Mr. Geo. T. Newell spoke in favor of the Italian bees, in that they produced more honey for him than the black bees did for his neighbors; his Italians commencing to work in top boxes sooner than the others.

How to Winter Bees.

The next question, "Shall we winter our bees in winter depositories or on their summer stands?" was taken up and discussed by D. H. Yant, Alpheus Chapman, and others.

Mr. Chapman thought that locust honey was best for wintering bees; his manner of wintering is on their summer stands, in sheds; protecting them from the weather, cold winds, &c., with straw, keeping them dry and cool, but not so as to freeze, discussing the subject at length.

Which Way to Face the Hives in Winter.

The question was asked, by Mr. Geo. T. Newell, "Should we, if necessary to winter on summer stands, face our bees to the South?" Answered affirmately.

The following resolution was received and adopted: *Resolved*, That in connection with this Association, at our future meetings, there be placed on exhibition (in such a manner as not to interfere with the regular order of business), hives, honey and implements of the apiary.

Owing to the distance some of the members of the Association had to travel, together with press of business matters with all, it was deemed not practicable to continue longer in session at this time. It was therefore, *Resolved*, That we hold a convention in the spring of 1880, at the call of the executive committee.

The Secretary made the following report: Members enrolled, gentlemen, 17; ladies, 6; total, 22. Cash received, \$7.00; expenses, \$1.30; balance in hands of Treasurer, R. H. Brown, \$5.70. Adjourned.

J. A. BUCHANAN, Pres.

THOMAS LLOYD, Sec.

N. W. O. Bee-Keepers' Association.

Met in Druld hall Toledo, O., Oct. 17, 1879. The meeting was called to order by President Williams. Minutes of last meeting were read and approved. The constitution and by-laws were read and opportunity offered for visitors to join the Association. Several availed themselves of the opportunity, the President stated that several members from Napoleon could not be present as the court of common pleas was in session, and their presence was required. The corresponding Secretary reported, submitting some correspondence which was received and placed on file.

The subject of wintering bees was discussed. Several members gave their experience in that direction, and the time was occupied until noon when the meeting adjourned until 2 o'clock.

In the afternoon a motion was made that the Convention appoint a delegate to attend the National Convention at Chicago, with instructions to ask if that Convention had any thing to do with the American Institute Fair held in New York last October. Carried. On motion Mr. Jno. Y. Detwiler, was appointed the delegate. Carried. Opportunity was then offered for conversation among visitors and members, and the various methods of wintering were discussed. In due time the meeting adjourned to meet in Delta, Ohio, the first Thursday in January, 1880. JNO. Y. DETWILER, Sec.

Central Ohio Convention.

The October meeting was held at Columbus, O., on Wednesday Oct. 15: J. W. Newlove, Vice President for Franklin county, in the chair, and S. D. Riegel Secretary. After the usual preliminary business, the Secretary read the question selected for discussion, as follows:

Is Bee-Culture subject to more Failures than Farming or Stock-Raising?

H. Culp held that bee-culture, as a specialty, required much study, practice, and care and in consequence more made failures of it than those engaged in farming and stock-raising. He had grown and handled various products, and found that none of them required the same amount of study that bee-culture did.

K. K. Parker, said that farming and stock-raising also required a great amount of study in order to meet with success, and in reality his views were somewhat in opposition to those advanced by the former speaker.

Vice President Newlove thought that bee-keeping properly managed, was no more risky than farming or any other business. We should be more vigilant in poor seasons; give more care and feed well; then failures will not often occur.

The Secretary corroborated Mr. Newlove's views, though he admitted that too many make failures of the business because of not giving proper attention to it as a matter of business. Our grain crops are sub-



ject to serious failures some seasons, in consequence of drouth, insects, &c.; whole herds of swine are sometime cut down with cholera; cattle also, in some sections, and seasons, fall victims to fatal diseases, and in view of these, failures are just as liable to occur in these industries as in bee-keeping; but not when such care and attention is given to the latter, as is generally given to the former industries.

Mr. McBeth said he had but little experience in farming, but had considerable in bee-keeping, and thought the difference in favor of the latter would equal the former two to one, with similar care and attention.

Mr. Oldham thought bee-keeping, if well managed, was no more subject to failure than farming or stock-raising.

Mr. Chambers asked if there was any difference in hives with reference to failure or success in bee-keeping?

Mr. Oldham answered that bee-keepers should keep but one kind of hives for convenience sake, and none but movable-frame hives were considered of any value.

In answer to the questions to the comparative value of comb or extracted honey, Mr. McBeth said, we must produce comb honey to meet the demands of the market.

Mr. Culp said he produced mostly extracted honey, and intended to continue its production. He put nothing on the market but a pure and good article, put up in neat packages, properly labeled, and was creating a market for it in this way.

Bee and Honey Shows.

Vice President Newlove thought some action should be taken by the Association to have the State Board of Agriculture offer more encouragement to the bee-keeping industry; he thought they did not appreciate its importance, as no suitable place for exhibiting bees, honey, hives and other aparian supplies has, as yet, been furnished at their fair. More liberal premiums, including a larger class, should be offered by the Board.

The Secretary thought it was probably an oversight on the part of the Board, coupled with the neglect of the bee-keepers, that the claims enumerated have not received attention before. That the Board would no doubt, do what was fair and right, if the matter was properly presented to them.

A committee of three was appointed to confer with the Board at its annual meeting, and present the claims of bee-keepers.

State Association.

Some discussion was had as to the feasibility of organizing a State Bee-Keepers' Association, composed of the district and county Associations throughout the State, and to be held at some central point. Thereupon a committee of two was appointed to confer with kindred Associations in regard to the same. Dr. L. C. Vernon, of Circleville, and S. D. Riegel, of Delphi, were constituted said committee, and will report at the next meeting.

The Secretary was requested to select a suitable subject for discussion at the next meeting. The following was selected: Who should keep bees.

A vote of thanks was tendered Jas. Flem-

ing, Secretary of the State Board of Agriculture, for favors extended to the Association during the meeting.

J. W. Newlove exhibited a case of nice honey, in single comb sections.

Mr. Oldham exhibited a new bee-feeder, which seemed to possess some valuable points. He also exhibited samples of Birmingham's Smoker.

The next meeting will be held at Circleville, on the third Wednesday in November next, at 10 a.m. J. W. NEWLOVE, Pres.

S. D. RIEGEL, Sec.

West. Ill. & East. Iowa Convention.

The sixth semi-annual meeting of this Society was held at Burlington, Iowa, Oct. 30 and 31 1879. Called to order at 10 a.m., by President L. H. Scudder. The attendance being small in the morning, the forenoon was passed in social converse.

Messrs. E. D. Godfrey, Rev. O. Clute and L. H. Scudder, were appointed a committee on programme for discussion.

AFTERNOON SESSION.

Admission of new members. The following persons were added to our membership:

Mrs. S. J. Rider, Fairfield, Iowa.
W. E. Baker, Trenton, Iowa.
Perry Morrison, Trenton, Iowa.
John Hanna, Danville, Iowa.
Wm. Parr, Burlington, Iowa.
E. L. Dunn, Alexis, Ill.
Mrs. Wm. E. Bell, Dover, Iowa.

The unprecedented failure of the honey yield throughout the United States, caused a great many bee-keepers to lose heart and feel discouraged; hence many were not present who otherwise would have been; but the attendance was quite large, and among our best members were those present. All were enthusiastic and full of "grit" to go ahead and try it again.

The report of the meeting at Hamilton, was adopted as published in the AMERICAN BEE JOURNAL.

The chairman of the committee on adulteration, Mr. Ch. Dadant, not being present, the report was postponed.

Mr. Clute said that at the meeting of the National Association at Chicago, the members expressed themselves as being not afraid of adulteration as much as formerly, as the low price of honey debarred the adulterators from the profitable use of a spurious article.

Mr. Scudder said that we ought not to give up the warfare until this adulteration business was *completely dead*; for if honey rises in price again, dishonest parties will go to work again. Our Representative thinks Congress will reach our case some time this winter.

Rev. O. Clute gave a short address of welcome on behalf of the citizens of Burlington. He said: "We come together at this time at the end of a bad season; the prospects in the spring were very flattering; the season opened well, but white clover quickly failed, and the fall harvest proved no better, and now we find ourselves not very rich so far as honey is concerned, but we must not get discouraged; bad times will come as well as

good ones. At the Chicago Convention, many gave only the dark side; saying that bee-keeping was at an end, wanted to dispose of bees, hives, etc., the general spirit was gloomy. Disaster comes to every business, not only to the honey producer, but to all. Sometimes wheat and corn are raised in too great abundance to be profitable; again prices go high on account of short crops. We now come to consult our local interests—how to winter our bees, to get them through the spring, to prepare for the next season's honey-crop, and dispose of it if we get it. In behalf of the citizens I extend their hearty congratulations to you over the pleasures of the present meeting."

L. H. Scudder, said he was disappointed at this meeting; he had not expected to see so many here; he thought they would remain at home, because discouraged at the hard rows they have had this season; but he was glad to see that they were not disheartened, and stand strong for future efforts. He said he had been through such seasons before, and had a great deal of pleasure with the experience. Some stuck to it and went ahead, and but few gave it up entirely.

The Composition of Royal Jelly.

Question: What is the Royal Jelly made of, that is fed to queens?

O. Clute. I think but very little is known on this subject; some think it is made of young bees and water.

Overstocking.

Question: How close ought apiaries to be kept to each other? How many colonies to each?

D. Rider. One season a friend of mine had 270 colonies; we had 100. Of course these bees got their stores from the same district; that was a very successful season, we got a large yield. This year my friend had about 160 or 170, and we had about the same. At the close of the white clover run he had 2,400 lbs., and we 1,010 lbs. of extracted, and 1,200 lbs. in the prize box, and in a few days the honey season was over.

O. Clute. Does not this question depend more on the various sections, and more or less flowers in different places. Put 100 cattle on 10 acres in a dry season and they would soon be out of food. On a larger area they would not get short.

L. H. Scudder. I have been troubled to answer this question. We claim this to be one of the best sections for honey in the world. In Germany as many as 2,000 colonies are kept to the square mile, while we think 500 to the square mile is too many. Take one apiary of 150 colonies and get their yield; then take another out of your range, and see if it does any better with less bees? I thought I was overstocked because I did not get what I thought I ought to. D. Palmer had a low yield this year, but his neighbor, with less bees did no better. Your bees that only get a little, would do better if you only had half as many.

Geo. Bischoff. A square mile in Germany is as much as 24 square miles here.

E. D. Godfrey. I should think by this year's report that we are all overstocked.

O. Clute. Small apiaries get no more

honey than large ones of 100 or 200 colonies. Some who have the largest number in one place sometimes get as much per colony as any with a less number. As long as the pasture is good, we get as much from a large number as from small lots. The season in Canada, this year has been very good and large crops are reported.

Purity in Breeding.

Question: Are Italian queens reared by black bees, as pure as those reared by Italian bees?

E. D. Godfrey. I do not think it will have any effect at all.

O. Clute. I think all experimentors say that the feeding of young Italian queens by black bees does not in any way effect the nature of the Italian bee. They compare it to the same principal of one hen hatching another hen's eggs.

Thos. Dunn. I got an Italian colony last fall; divided them, put a frame of brood in a black colony, and the queen reared there is a lighted one than the old Italian queen.

Eggs Producing Queens and Workers.

Question: Are eggs that produce a queen and a worker the same? Is it not the food that develops the queen?

A. Reynolds. One egg is put horizontally the other perpendicularly; I think this makes some difference.

O. Clute. There is no question but that the amount of food and room given makes the difference in the development of the queen or worker bee.

Ripening of Honey.

Question: If, during a honey season, the honey be extracted from a hive every two or three days, will such honey ripen or become thick?

Geo. Bischoff. I can see no difference between sealed or unsealed. I extracted some last fall; in two weeks it was candied like lard.

Will. M. Kellogg. I have extracted such honey and could see no difference as to quality, where it was allowed to stand for some time in jars covered with cloth and board, so that the air could circulate freely. If canned up, I think it would sour.

O. Clute. In reading the various bee periodicals I find that some bee-keepers extract every three or four days. In California it is put in large reservoirs and drawn off from the bottom and it is said their honey ripens perfectly. It is also done in the East. This question has a very important bearing. If we can extract every three or four days, we can get a much larger yield.

Geo. Bischoff. I think the weather makes much difference. In hot weather uncapped honey looks foamy; I do not think such honey would keep.

D. Rider. Have extracted 1,010 lbs. from 20 two-story hives, 10 frames to each story; those on the top had been extracted the fall before, and contained very white comb, we put some of these on top during our large honey flow, and soon found the queen up there, which induced the bees to climb up and store a great amount of honey. It was all capped over in a short time; in one week I extracted twice, and it was all sealed.



L. H. Scudder. We cannot follow California; they have no rain fall there to prevent working; it is dry here, with occasional rains; their honey becomes very thick, ours contains more water. Let us try experiments next season for ourselves. In California they try to get over all their colonies once a week. It has been said that it is not safe to extract till it is all capped, and many dislike to own that they do it.

E. C. Crane. The first sections I took off last year I put in the cellar; in four weeks some of it was sour and not fit to sell. My extracted honey did not candy till March. That extracted last June and July is already candying. I have honey that was extracted all at one time, one jar candied, the other not. I think that from old dark comb it candies first.

L. H. Scudder. Were those combs all empty and put on at the same time?

E. C. Crane. Nearly so.

L. H. Scudder. The honey might have been gathered from different sources.

The Best Age for Queens.

Question: To what age may a queen be profitably kept?

E. D. Godfrey. Until this year, when a colony did not give me 25 lbs. of surplus, I pinched the queen's head off, but if I were to follow that plan this year, I would only have 2 queens left. I would not keep them over two years.

E. C. Crane. I much prefer young queens. O. Clute. I think they have the capacity of laying a certain quantity of eggs. Hens are created to lay about a certain number of eggs, and poultry men try to get all these eggs in two years. Is not this also true in regard to bees? Queens can lay about 2,000 eggs per day. If we can persuade the queen to lay all her eggs in two years, it would be much better. As soon as bees can fly in the spring I would feed two to four tablespoonfuls every day, in order to get the colonies strong for the first harvest and the queen laying to her full capacity. Stop feeding when honey flows, and begin again when the flow ceases. I would keep the queens laying by stimulating, during the whole season when no honey flows.

D. Rider. In feeding bees early, is there not danger of the young brood being killed by frost? Have had that experience this year. I generally feed in a large reservoir behind the hives.

O. Clute. I think Mr. Rider is right. In a sudden change to cold weather much brood might be injured. I think the bee-keeper of the future will use the chaff hive, which gives a warm dry nest for the bees. Any change after the last of March or the first of April, causes no danger in these hives.

E. D. Godfrey. I do not think it necessary to feed to promote brood rearing if the bees are properly protected and wintered. If they have plenty of honey and it is desired to feed, uncapsome of it.

O. Clute. There seems to be a large amount of testimony given in favor of stimulative feeding to promote breeding, in foreign countries as well as at home. The general weight of testimony is in favor of it.

Feeding Bees.

Question: Will it pay to feed bees now to winter them over?

O. Clute. If one has a fair quantity of bees, enough to winter if they had food enough, a feed made of $\frac{1}{2}$ water, $\frac{1}{2}$ sugar, would be good, 15 lbs. of sugar costing \$1.50 would make 20 lbs. of feed which ought to keep a colony through. I think it will pay.

L. H. Scudder. I have kept bees through the winter in a cellar with 5 lbs. of honey; after they are taken out they consume more. I had better success with such than heavier ones. Have had sugar granulate in combs and feeder. I think sugar syrup ought to be well boiled. The different kind of sugar used must determine the amount of water required.

Paul Lange. With the Langstroth hive on the winter stand, how would you feed during winter?

L. H. Scudder. You cannot feed in the winter, it is too much trouble.

E. D. Godfrey. I fed 5 barrels of sugar one fall, 18 lbs of sugar to 1 gallon of water. One quart of syrup makes 2 lbs. when sealed in the comb. For summer feed would use $\frac{1}{2}$ water.

D. Rider. I have wintered on 10 lbs. and less. If you want to winter well, feed in the fall; make a pretty thick syrup, use a large reservoir behind, back from the apiary, out of doors. There are but few bees of other persons near me. We always equalize our colonies before feeding. In less than a half mile a molasses factory was started, I was losing many bees, I fed as much as 20 gallons a day of thick syrup, it kept my bees at home and did not start them at robbing. I kept the entrances nearly closed.

L. H. Scudder. I think you cannot do a worse thing than to give bees honey in the open air. They are more eager for comb honey than extracted. I prefer to feed with combs of honey from stronger colonies.

D. Rider. This year it was dangerous to open a hive on account of robbers and I had to resort to outside feeding. I have fed comb honey the same way.

L. H. Scudder. I desired to do some extracting but the robbers pitched in, and got very thick. I use a portico hive and in moving, I cover these porticos with wire screens. I put these wire screens on the hives before I began to extract. The robbers got into the hive, and I closed it up and went on to the next; the robbers would get their fill of honey and try to get out. After the bees got the loose honey taken care of in the hive, they were ready to fight, and took good care of the robbers. I then took off the wire. I can work all day and have no trouble, even at this time of year.

E. D. Godfrey. I prevent robbers from working at such times by smoking every colony in the yard.

Feeding Flour.

Question: Is it advisable to use rye flour in the spring?

Geo. Bischoff. My bees are very fond of it; they got so that they looked for it every time I came into the yard. Some think it is injurious.

H. Brown. I have never fed rye; I take

sugar syrup and stir in wheat flour until it is quite thick, then let it cool till it is hard, like candy, in pans. I then turn these pans over the frames, under the quilts.

J. W. Barlow. I use oat and rye flour, oat flour and corn meal together; the bees used bushels of it.

W. F. Bell. I like the unbolted rye flour best; I fed 160 lbs. of it last spring, about February.

E. C. Crane. Have fed rye and corn meal I think they rear brood faster with it.

L. H. Scudder. I have fed as much as 2 bushels day; but they did not keep it up long; not more than 3 or 4 days. A few bright days brings willow out, then bees abandon the flour. Feeding rye and oat meal will stop robbing in the spring.

Question: What do bees get from box elder?

L. H. Scudder. I think they get honey.

Providing room for Queens to lay in.

Question: How can we prevent the bees from crowding out the queen in a large flow of honey?

L. H. Scudder. I think the main cause is cool weather during the flow of honey; cool nights drive bees out of boxes, and as it does not get warm enough to let them return to them, they have to store it below.

E. D. Godfrey. A good queen will not lay at that time of the year, (the last of Sept. or first of Oct.)

H. Brown. I have plenty of colonies with brood hatching now.

E. D. Godfrey. Old queens will not lay as late by 30 days as young ones. This year's queens will lay very late. I find colonies of bees with August queens come out best in the spring.

L. H. Scudder. I do not fear any bad results, if I do not find brood in October, if there are already only bees enough.

Prolific Queens.

Question: What method shall we pursue to procure the strongest and most prolific queens?

Wm. H. Smith. Take eggs from the most prolific queen, then take the queen from a strong colony and let them raise the queen cells from these eggs, and rear your queens from the best cells. If no honey is being gathered at the time, you must feed. Rear them as early in the spring as practicable.

Question: Has the size of the queen anything to do with her prolificness?

Will. M. Kellogg. No! the best and most prolific queen I ever had, was the smallest one in the yard.

E. D. Godfrey. I have seen some small queens far more prolific than larger ones.

Question: Is a queen reared from a larvæ three days old, as good as one from an egg?

W. H. Smith, and Geo. Bischoff. Yes!

Question: Is a queen reared at a season of the year when no honey is coming in, as good as any other?

Geo. Bischoff. I think it all depends on the weather.

Will. M. Kellogg. Yes, if the bees are fed during the time, and it is not too cold.

Adjourned to 7:30 p.m., at which time the members re-assembled to hear the Rev. O. Clute, of Iowa City, Iowa, speak on the sub-

ject of "Points of Progress in Bee-Culture," but nearly all present being bee-keepers, it was thought it would be of more interest to hear a report of the National Convention at Chicago, and the evening was spent very pleasantly in listening to an interesting account of that meeting by Rev. O. Clute and E. D. Godfrey.

MORNING SESSION, OCT. 31.

Called to order at 9 a.m. The following Essay was read by the Secretary.

Our Society.

It has been said that bee-keepers' societies are run in the interests of bee publications and supply dealers. I differ from that opinion very decidedly. It is true, at our Conventions are seen the wares of various dealers, and copies of the various bee periodicals. But have we no need of these? Are we not using them every day? What practical bee-keeper of to-day would try to get along without prize boxes, shipping crates, comb foundation, honey extractors, honey knives, smokers, etc. The demand that has grown up for honey put up in the highest fancy styles, compels us to adopt and use these attractive packages if we would hope to compete with our brother bee-keepers wish any show of success; for as a general rule, it is the style of the article that sells it, more than its merits.

Admit that we have to use these supplies, next comes the question, where shall we get them? But very few of us can afford to own a horse or steam power machinery for making them, hence we must apply to those who can make them for us, and were it not that there are such dealers, the majority of us would have to give our honey away in the old fashioned, rough, inch, board box. Next are the bee periodicals, without which our bee-keeping interests would still be almost unknown, instead of taking their place by the side of other long-established industries, as they are fast doing.

Our bee papers are ever on the alert to forward our interests in every possible way, and to promote the science of bee-culture to its highest attainable point. "But they make money by it," say some; my friends, do you work for nothing? No more then should we refuse to pay these men for their efforts in our behalf, as we would pay our lawyer or our doctor. I claim that our societies are working for the interests of all classes: the producer, consumer, and all others connected in any way with the pursuit.

There are more features of these Conventions than just that of dollars and cents. The social enjoyments had at our meetings, when we grasp the hands and see the smiling faces of our brother or sister bee-keepers, more than repays all the cost and trouble it takes to get there. I have heard some say, "what is the use of my going, they cannot learn me anything." Well, suppose they cannot, it will warm up your hearts and do you good to meet your fellow workers now and then, and perhaps you may be able to learn some one else a little. I heard of one member coming 50 miles to attend one of our meetings, saying, "these bee-keepers



beat any class that I ever met with, they are so cordial, and all seem so anxious to help those who are but learners yet. I would not have missed this treat for a good deal." For one, I can say that these meetings have been among the most enjoyable of my life, and I hope to be able to attend many more of them. Let each one go home resolved to do his or her best to make each meeting as enjoyable as it can be, and make an effort to be present. Long live and flourish "the Western Illinois and Eastern Iowa Bee-Keepers' Society."

President L. H. Scudder then delivered the following essay on

Handling and Marketing Honey.

Permit me to offer for your consideration a few remarks on handling and marketing honey. Much has been written on this important topic and much more can be said to aid us in gaining a just reward for our labor. As you are principally experienced bee-keepers, you understand how to have your honey put up to attract the attention of the consumer. Lest there be some here who are novices still, I will briefly mention a few essentials in the production of honey to command the highest market price.

Fashion to-day is decidedly in favor of comb honey in small, tight, clean sections, weighing from one to two pounds each. The combs should be straight enough to be glassed on both sides, not that all persons prefer buying glass at honey price, but many do, therefore it will be best to suit all, besides good straight combs bear shipping much better than crooked ones. The crate preferred at present is what is called the Prize Crate, large enough to hold from 12 to 24 sections.

Extracted honey sells well in small packages; glass jars do very well, but I prefer tin buckets as used by Dadant & Son. They sell thousands of them annually of various sizes ranging from $2\frac{1}{2}$ to 25 lbs. each.

I omitted to mention in the proper place that to insure straight combs you must use tin separators.

Now a few words in regard to shipping honey. My advice would be: Do not ship a pound until your home market is entirely exhausted. Cultivate your home market to the utmost extent, and by all means, keep it fully supplied at all times with the choicest of your products; even if you are compelled to leave it with your grocers to sell on commission. This you can do successfully, as there will be no difficulty in placing your product on the market in a neat and attractive condition, having done all the handling yourself. Then, too, being personally acquainted with nearly all of your customers you can furnish each one with just what they desire. After you have done all you possibly can at home, you will probably be compelled to seek a distant market, and here is where your trouble will commence. You are well aware that your success will depend on placing your honey on the market in good shape, therefore you will put it in nice packages as possible. To insure careful handling, label each package in plain letters, "HONEY—THIS SIDE UP WITH CARE," and then as a further pre-

caution superintend the packing in the car. Now you feel certain that it will be all right; but let me remind you not to be over confident, "there's many a slip 'twix cup and lip." Unless your consignee is a careful man and understands handling honey, there is a strong probability that he will leave it to the tender mercies of the "baggage smashers" to be unloaded. Then do not be surprised if in the course of a few days you receive notice that the honey arrived in a badly damaged condition; all your care has gone for nought. Provoking, is it not? I know just how one feels under such circumstances, and I have resolved that hereafter I will go myself and see that it is properly handled, for I know of no worse commodity to dispose of than a broken, leaking, sticky, mass of honey. Here let me say that unless you have witnessed the reckless manner in which railroad men handle goods, you would hardly credit the statement, that I have seen them take shipping crates filled with honey, glassed and labelled as above mentioned, and after piling them 8 or 10 high, run the truck up and tip them over on it with the glassed side down, and after wheeling some distance dump it off regardless of consequences. You will readily conclude that a company that would allow such a useless waste of property should pay for all the damage done, and so they should, but will they? I answer No, unless compelled by the courts.

We will now offer a few remarks on marketing this surplus which you could not dispose of at home. When you reach your destination, see that your honey is carefully unloaded and stored. Then take samples and go to the best groceries in the place and take your orders. Do not be in a hurry. You may work all day without making a sale. Do not be discouraged; you are a new man and they all want to feel of your pulse. After working one or two days you will be tolerably well posted as to the supply and demand. By that time you have probably made one or two good sales; what I mean by good sales, is, selling a fair quantity at a good price. Now you have made a grand stride towards success and you must use it. You must still work on the most popular establishments. It is true they will select mainly from your choicest stock, but never mind that; you must bear in mind all the time that a rivalry exists between these parties. If you make a good sale to Mr. A., when you call on Mr. B. if he seems a little off, you might casually mention the fact that Mr. A. took so much at such a price, and the trade will assume a new phase at once. He will then, in all probability, order more than Mr. A. You will find that one sale helps to make another in nearly every instance. There is another very important matter that you must not overlook: Be careful at all times, if you are not making a sale, not to let your countenance tell it. If you do, the "sharks" will get you, sure. After you get the larger establishments supplied gradually work on down with the smaller ones, and you will soon have your honey worked off and the money in your pocket.

In this way you have been your own commission man, and you may rest assured that

you have done better than the best of them would have done for you. No chance for leakage, shrinkage, or cattage, and I suppose I might with propriety add stealage.

Sections and Separators.

Question: Can we get as much honey by using the prize box and tin separators, as by other kinds of boxes?

L. H. Scudder. When I began using the prize box, I thought I would not get as much honey as by the common box. I tried different kinds of boxes to test it and could not discover that I got any less honey. Our greatest trouble is to get men to handle honey without breakage; it is not the motion of the car that breaks the honey, but the men that handle it.

O. Clute. I prefer nailed sections to the dovetailed; also top and bottom of section to be of the same width. I think separators and comb foundation starters essential to success. I use a ladder of comb foundation in one box in each row of the sections.

S. N. Black. If you have a lot of sections well-filled with comb, give one of them to each case of sections on the hive, and the bees will go to work much faster.

L. H. Scudder. I extract from all unfinished combs and save for starters next year. Crooked comb is no objection for a home market, but you must confine it to the home trade. If I had a large home trade I would not use the separators, unless I had to compete with others who use them.

O. Clute. I am inclined to think that large clusters of bees in sections in warm weather is not of much advantage.

A. Reynolds. The starters must not be too wide.

D. Rider. I do not think we ought to use more than a $\frac{1}{4}$ inch piece of foundation in each section.

E. D. Godfrey. At Chicago few would own that they were using it.

L. H. Scudder. A bee-keeper who would not use it, does not know his business.

Who Should Keep Bees.

Question: Should we prevail on people to keep bees?

A. Reynolds. I am in favor of it. It makes home more pleasant to see a few bee hives around the yard.

S. N. Black. Not many are qualified to keep bees; all ought not to try it. Adaptation to the business and location ought to be thought of.

O. Clute. It seems to me scarcely wise to urge people to keep bees who have no qualifications for it, whatever. There is no doubt but what a large number of persons would be benefited by keeping one or two colonies of bees. It would give them a little out-door work, so needful for good health, a little profit, and a great deal of pleasure.

E. D. Godfrey. Did you ever hear a lawyer, or any other business man say, shall we urge people to take up our profession? I do not think it advisable at all. Supply dealers make the profit on new bee-keepers, not the bee-keepers. We should not advise persons to keep bees any more than those of any other profession should do it with their trade.

L. H. Scudder. The supply dealers do a

great deal of damage, represent the large yields too much; novices are liable to buy too much. We do not doubt the truth of these reports; but we do not hear the other side. Papers commenting on the glorious profits of bee-keeping will cause a great many "busted" bee-keepers in the next five years.

O. Clute. It is the same in all other trades; one is seen to do well; others try for the same; those who can, will thrive; others will fail, as they would at anything.

Buying Untested Queens.

D. Rider. I have bought quite a number of queens said to have come from Italy. I paid \$20 for one colony. I think the home-bred queens much the best; did more service than the high priced ones. I never bought a dollar queen.

E. D. Godfrey. I am decidedly opposed to cheap queens; I never buy other than tested queens. I know a breeder who sells queens by the thousand; he took his poor queens out, replaced them with imported ones, and sold the poor ones through the country as cheap queens. I think many a report of poor seasons is caused by old, cheap queens.

O. Clute. Are not cheap queens reared in as cheap a way as possible, and thus poor, weak queens are sent out? I think in general, it has a tendency to introduce that kind of queens. Stock breeders pay a high price for good stock, and I think bee-keepers ought to get the best every time.

H. Brown. I have lately bought 6 queens for \$5, those hives are now full of bees, and there is more value in those 6 at \$5 than one imported queen at \$10.

O. Clute. There is no question but what many cheap queen breeders send out good stock, yet the general tendency is to deteriorate our bees.

L. H. Scudder. Many claim that the larger price is for time taken in testing, and that cheap queens are as good only not tested as to purity.

Geo. Bischoff. In a lot of 20 queens, I do not think more than 4 or 5 would be first-class.

AFTERNOON SESSION.

Manner of Cleansing Beeswax.

Question: How shall we cleanse our beeswax so that it is pure enough to manufacture into comb foundation?

L. H. Scudder. There are various ways of doing it. It is no trouble to get wax almost pure if clean combs are used. Cappings are almost pure enough to use without any other work except melting. I melt combs in a large can, putting in 4 or 5 pails of water; when melted, I put a mosquito bar on top, and dip through it into another vessel that contains water; let it cool, scrape off the bottom of the cake, and go over the same process till thoroughly cleansed. If you want to bleach it, put it in the sunshine, or in a very light room. Never heat wax without water under it.

W. H. Smith. Wax may be made dark by using a dirty kettle.

D. Rider. I use a steam wax extractor, and like it best.



E. D. Godfrey. Some of our largest wax producers do not use wax extractors at all.

A. Reynolds. I have tried salt water for melting and caking wax in, and think it separates the dirt better.

Resolutions of Thanks.

The thanks of the Society were voted to Messrs. Geo. Bischoff, Paul Lange and others, for their efforts to prepare a hall, etc., for the meeting; to the papers for their continued notices of the meeting, and to the Reform Club, for the excellent manner in which their hall was taken care of for our use.

Resolved, That the Secretary of this Society be made an honorary member, without expense, in perpetuity.

Whereas, Since our last meeting two of our members, Martin Wirt, Esq., of Keithsburg, Ill., and Mrs. Jas. A. Simpson, of Alexis, Ill., have been removed from among us by the hand of death, therefore,

Resolved, That we hereby express our hearty appreciation of the worth of these friends who have gone from us, our respect for their industry and enthusiasm as bee-keepers, and our sorrow that we shall no more enjoy their kindly presence and help in our meetings.

Resolved, That we extend to the families and friends of these deceased members, our heartfelt sympathies in the great sorrow that has come upon them.

Drawing of Prizes.

Twenty-four prizes were given away to members present, as follows:

1st Prize.—A copy of "Blessed Bees," given by O. Clute, Iowa City, Iowa; drawn by S. N. Black, Clayton, Ill.

2d Prize.—A lamp mat, given by Mrs. Z. Hollingsworth, Montrose, Iowa; drawn by Perry Morrison, Trenton, Iowa.

3d Prize.—THE AMERICAN BEE JOURNAL for one year, given by D. Rider, Fairfield, Iowa; drawn by W. E. Baker, Trenton, Iowa.

4th Prize.—A nice bed quilt, given by Mrs. L. H. Scudder, New Boston, Ill.; drawn by herself.

5th Prize.—An imported queen, given by Ch. Dadant & Son, Hamilton, Ill.; drawn by E. L. Dunn, Alexis, Ill.

6th Prize.—A pair of choice fowls, given by J. R. Baker, Keithsburg, Ill.; drawn by Will M. Kellogg, Oquawka, Ill.

7th Prize.—Package of Rocky Mountain bee plant seed, given by Mrs. C. M. Kingsley, Elvaston, Ill.; drawn by L. H. Scudder, New Boston, Ill.

8th Prize.—Package of catnip seed, given by Mrs. C. M. Kingsley; drawn by E. C. Crane, Burlington, Iowa.

9th Prize.—Package of mustard seed, given by Mrs. C. M. Kingsley; drawn by E. D. Godfrey, Red Oak, Iowa.

10th Prize.—Package of unknown seed (very valuable), given by Mrs. C. M. Kingsley; drawn by Wm. H. Smith, Burlington, Iowa.

11th Prize.—Two pounds of comb foundation, given by L. H. Scudder, New Boston, Ill.; drawn by Loren Hatchet, Burlington, Iowa.

12th Prize.—A pair of light Brahma fowls, given by Harmon Brown, Galesburg, Ill.; drawn by Geo. Bischoff, Burlington, Iowa.

13th Prize.—A bee feeder, given by H. F. Putnam, Galesburg, Ill.; drawn by Mrs. Z. Hollingsworth, Montrose, Iowa.

14th Prize.—Picture "Evening Prayer," given by Paul Lange, Burlington, Iowa; drawn by Alvah Reynolds, Oneida, Ill.

15th Prize.—A bread plate, given by Mrs. E. P. Hollingsworth, Monmouth, Ill.; drawn by Miss Mary Scudder, New Boston, Ill.

16th Prize.—A large size honey dish, given by Mrs. E. P. Hollingsworth; drawn by Wm. Parr, Burlington, Iowa.

17th Prize.—A small size honey dish, given by Mrs. E. P. Hollingsworth; drawn by herself.

18th Prize.—China cup and saucer, given by Mrs. E. P. Hollingsworth; drawn by John Hanna, Danville, Iowa.

19th Prize.—One stem honey dish, given by Mrs. Craig Hanna, Geriaw, Ill.; drawn by H. F. Putnam, Galesburg, Ill.

20th Prize.—A glass pitcher, given by Mrs. Craig Hanna; drawn by H. J. Elliott, Burlington, Iowa.

21st Prize.—A celery dish, given by Mrs. Craig Hanna; drawn by Paul Lange, Burlington, Iowa.

22d Prize.—A pickle dish, given by Mrs. Craig Hanna; drawn by J. W. Barlow, Keokuk, Iowa.

23d Prize.—Small pickle dish, given by John Hanna, Danville, Iowa; drawn by John Hoover, New Boston, Ill.

24th Prize.—A butter dish, given by John Hanna; drawn by Mrs. S. J. Ryder, Fairfield, Iowa.

Mrs. L. H. Scudder, who drew her own prize, presented the bed quilt to the Society, who in turn, on motion of E. D. Godfrey, presented it to the Secretary.

Election of Officers.

The election of officers for the ensuing year resulted as follows:

President—L. H. Scudder, New Boston, Ill.; Secretary and Treasurer—Will M. Kellogg, Oquawka, Ill.; Vice Presidents—E. D. Godfrey, Red Oak, Iowa, and Mrs. Z. Hollingsworth, Montrose, Iowa.

A committee of arrangements for the next meeting was appointed, as follows: T. G. McGaw, Judge John Porter and Mrs. E. P. Hollingsworth, all of Monmouth, Ill.

The usual exhibition of bee-keepers' articles was very small.

Adjourned at 3:30 p. m., to meet at Monmouth, Ill., at the call of the Executive Committee.

L. H. SCUDDER, Pres.

WILL M. KELLOGG, Sec'y.

Read before the National Convention.

Humanity to the Bees.

BY A. J. KING.

Mr. President, Ladies and Gentlemen:

The subject of humanity to the bees is not a new one. If has been urged almost from time immemorial. Poets, statesmen, philosophers, and philanthropists have depicted in glowing language the cruelties practiced upon the industrious insects, and have awarded prizes for taking surplus honey without sacrificing the lives of bees.

During the past thirty years by improvements in hives and bee-keeping apparatus generally, as well as in methods of management, the "brimstone pit," is rendered not only entirely unnecessary, but positively wasteful and unjustifiably cruel. These new methods of management have been published and practiced far and wide, until there is not a bee-keeper in the country who is not aware of their existence.

The fact that by the new methods more than double the quantity, and honey may be taken in much better shape for any use, with less labor, and no loss of bees, is also patent to all. Yet, notwithstanding all this, each year witnesses the destruction of millions of honey bees, while the country needs a hundred, where it has but one.

The poet Thomson has so faithfully portrayed the cruel and fiendish process of taking honey by the old methods that I cannot forbear repeating his lines:

"Ah see! where robbed, and murdered, in that pit
Lies the still heaving hive! At evening snatched
Beneath the cloud of guilt-concealing night,
And fixed o'er sulphur; while, not dreaming ill,
The happy people in their waxen cells,
Sat tending public cares, and planning schemes
Of temperance, for winter poor; rejoiced
To mark, full flowing round, their copious stores.
Sudden the dark, oppressive steam ascends;
And used to milder scents, the tender race
By the round and tumble from their honeyed domes
Convulsed and crushed, in agonies in the dust.
And was it then, for this you roamed the spring,
Intent from flower to flower? For this you toiled
Ceaseless; the burning Summer heats away?
For this in Autumn search'd the blooming waste,
Nor lost one sunny gleam? For this sad fate,
O man! 't yonic lord! how long, how long,
Shall prostrate Nature groan beneath your rage,
Awaiting renovation? When obliged,
Must you destroy? Of their ambrosial food

Can you not borrow? And, in just return,
Afford them shelter from the wintry winds;
Or, as the sharp year pinches, with their own
Again regale them on some smiling day?
See where the stony bottom of their town
Looks desolate and wild, with here and there
A helpless number, who the ruin'd state
Survive, lamenting, weak, cast out to death."

For Thomson's humane appeal he has been thus apostrophized by Dr. Evans:

"And thou, sweet Thomson, tremblingly alive
To pity's call has mourned the slaughter'd hive,
Cursing, with honest zeal, the coward hand
Which hid in night's dark veil the murd'rous brand,
In steam sulphurous wrapt the peaceful dome,
And bore the yellow spoil triumphant home."

Were we speaking of clams, lobsters, oysters or any of the lower orders of animated existence, these remarks might be regarded as mere sentimentalism, but the *bee* stands high in the scale of animal intelligence, and hence possesses an organism susceptible of pleasure or pain to an intense degree. Recognizing this fact, most of the great minds of the past have left on record eloquent tributes to the bee. She has furnished the political economist with models of government, the architect with plans for the strongest structures with the greatest economy of materials and space. The theologian has drawn on her for some of his best illustrations of design in nature to demonstrate the existence of an intelligent Creator. Aristotle the high priest of ancient philosophy, well acquainted with the habits of all animals known in his day, pronounced the bee a "magazine of the virtues," and Virgil, Rome's most gifted poet, pronounced her a "ray of the divinity." Modern investigators have instituted many experiments to ascertain the limits of bee-wisdom, yet in all of them she has shown herself equal to the occasion, and by her wonderful adaptation of means to ends, in the various positions she has been placed, convinced many that she really takes cognizance of cause and effect, exercises volition and does things so closely allied to human reason that the line of demarcation can scarcely be pointed out. Such being the character of the honey bee, I am not ashamed to espouse its cause and to ask the aid of this Association in suppressing the needless cruelties practiced upon it.

To accomplish this we do not, I think, need any additional legislation, but a vigorous enforcement of laws already in existence. Parents are by law compelled to educate their children and to treat them humanely. Sportsmen are compelled to refrain from shooting birds except at certain seasons of the year, and some species entirely. Fishermen are compelled to fish only until the season for spawning commences, so that the increase of fish be not interfered with, etc., etc. Twelve years ago the American Society for the Prevention of Cruelty to Animals was instituted and up to the present time has prosecuted and convicted 7,000 offenders and prevented the abuse of animals on 16,957 occasions. The provisions of the laws of this Society are ample to protect our little pets from the cruelty of their masters in not caring for them properly, or from consigning them to the brimstone pit.

These laws extend to every State in the Union except four, and the result is a very marked improvement in the treatment of all animals except bees, but for these the

protection of the law has never yet been invoked. A prominent lawyer of Jersey City, an amateur bee-keeper, offers to prosecute any clear case of bee murder, free of charge in order to furnish doubtful bee-keepers a test case to inspire confidence in the efficiency of our laws, if enforced, to protect the bees from needless cruelty. Section 64 of the New Jersey law reads as follows:

"Any person who shall * * * torture, torment, deprive of necessary sustenance * * * or otherwise abuse, or needlessly mutilate or kill, or who shall cause or procure * * * to be tortured, * * * any living animal or creature * * * shall be deemed guilty of a misdemeanor, and for every such offense shall, on conviction thereof, be punished by fine not exceeding \$250, or by imprisonment in the county jail not exceeding six months, or both, in the discretion of the court."

For the purpose of more fully satisfying myself that the manner in which bees are so often treated, constitutes a crime within the meaning of the law, I wrote Mr. Henry Bergh, President of the Society for the Prevention of Cruelty to Animals, detailing the methods of treatment pursued by box-hive bee-keepers of needlessly exposing their bees to the severity of winter unprotected and often with insufficient stores, &c., &c., ending with their cruel death by brimstone. I received the following reply, together with a copy of the law relating to this subject:

Society for the Prevent'n of Cruelty to Animals,
New York, Sept. 25th, 1879.

Mr. A. J. King—Dear Sir:—Yours of the 24th inst. received. The needless killing of bees by the method you describe, is not only cruel in the extreme, but is a violation of the laws of this State, which prohibit the needless killing of any animal, and infliction of unjustifiable physical pain and suffering. Not being freely conversant with the manner of treating the little busy bee, you will pardon my not entering into the discussion, but take great pleasure in sending you the laws with reference to their protection from cruelty and death.

HENRY BERGH.

A careful perusal of these laws fully confirms my previous convictions, and for the purpose of bringing the subject to the attention of this Association in a more tangible shape, I have transcribed a few of the many provisions of the law. The first reads:

"Every person who shall by his act or neglect, maliciously maim, poison, wound, injure, torture, starve, cruelly beat or kill any horse, mule, ox, cattle, sheep, or other animal belonging to himself or another shall, upon conviction, be adjudged guilty of a misdemeanor."

Section 46 reads:

"Every person who shall be convicted of any misdemeanor, the punishment of which is not prescribed in this or some other statute, shall be punished by imprisonment in a county jail, not exceeding one year, or by fine not exceeding \$250, or by both fine and imprisonment."

The notes following this section and also referring to other provisions of the law read as follows:

"The intent is assumed from the act itself. It need not be averred or proven. When an act is in itself illegal, the law presumes evil intention. It is a universal principle that when a man is charged with doing an act (that is, a wrongful act without any legal justification) of which the probable consequence may be highly injurious, the intention and inference of law resulting from the doing of the act. And although he may have had another object in view, he may be taken to have intended that which is the natural consequence of the act. If he does an act which is illegal, it does not make it legal that he did it with some other object. That is not a legal excuse. Express malice need not be proven in cases of cruelty to animals."

Section 37 reads :

"In this act, and in every law passed, or which may be passed, relating to or affecting animals, the singular shall include the plural; the words 'animal' or 'dumb animal' shall be held to include every living creature; the words 'torture,' 'torment,' or 'cruelty,' shall be held to include every act, omission, or neglect whereby unjustifiable physical pain, suffering or death is caused or permitted; and the words 'owner' and 'person' shall be held to include corporations as well as individuals. But nothing in this act shall be construed as prohibiting the shooting of birds or other animals for the purpose of human food."

The necessary steps to be taken in cases of prosecution are simple, and are plainly set forth in a little manual, which will be sent gratis by addressing Henry Bergh, Esq., New York City.

A vigorous enforcement of this law could not fail, we think, of the most happy results, both to the bees themselves and also to all worthy the name "bee-keeper." The results would be seen in the driving of large numbers either to adopt the modern, humane and profitable improvements or to quit the business, which they have hitherto disgraced. Strained honey and broken combs filled with pollen, honey, and brood intermingled, would no longer be seen, and the choice products of the scientific bee-keeper would advance in price, besides producing other good results which readily suggest themselves. In conclusion, I hope this Association will, by resolutions or otherwise, inaugurate some general plan of united action, looking to the suppression of existing cruelties practiced upon our little favorites, whereby they may enjoy the same immunity from suffering now extended to other animals less intelligent, less profitable and of less importance to the community.

Nebraska Convention.

Adjourned meeting of the Nebraska Bee-Keepers' Association, met Oct. 8, 1879. President Craig in the chair.

The minutes of the last meeting were read and approved. Communications and reports were received, from G. M. Hawley, and James M. Hyme, together with an insect that the latter found destroying his bees.

President Craig reported as follows: In the spring, number of colonies 131; sold 11; got 72 swarms; colonies on hand 188; took 500 lbs. of honey, with 200 lbs. yet to take; 12 lbs. of wax; uses the Langstroth hive.

Secretary Pigman reported as follows: I moved from Kansas last November and brought 24 colonies of bees by railroad. All came through safely with only two frames broken down. There were some dead bees in the hives. Wintered some in the cellar, others on their summer-stands; it was too late for them to have a fly. As spring approached they dwindled terribly; I could in no way stop the dwindling. I went through the hives repeatedly and cleaned them out and righted them up, putting on blankets, &c., but still they died until 20 was gone, leaving the hive heavy with honey. The 4 that did survive were so weak that it took the season to regain their strength, giving no swarms. I took 6 on shares. Number now on hand, 15; bees-wax, 35 lbs.; have taken about \$10.00 worth of honey. I should like to know more about

the cause of the dwindling, also a remedy in such cases.

Motion made and carried that the Secretary forward the insect to Prof. Cook, of Lansing, Mich., and ask him to report what it is—its character as a bee destroyer.

After some further discussion the Association adjourned subject to call of the President.

W. G. PIGMAN, Sec.

Hints to Beginners.

There are two classes of persons that will, and profitably may, engage in bee-keeping—those who begin the work with a view to make it their business, who make it their only, or at least their main occupation, and those who begin it not so much for the profits as for the sake of the recreation it affords. This latter class is by far the larger of the two, embracing the majority of our farmers and many professional men. We may add a third class, those who have heard of the profits realized from the business, and thinking it a most excellent way to get rich without any outlay, study, or work, madly rush into it with the idea that all they have to do is to market the honey and pocket the money. For these we write not, however; they had better never begin.

The first step one should take in this direction is to study bee literature. Study the physiology of the bee. Acquaint yourself with what others have done and are doing. Learn which are the most difficult points, as Italianizing, artificial swarming and the like, and master them. By having all this clear in the mind, you can begin with confidence and work intelligently. There will then be nothing mysterious about it, which, because not understood you must leave to chance and guess-work.

Next study the facilities you have for bee-keeping, your locality, your honey producing plants, your markets, and see what difficulties you will be likely to encounter. When all this is clear, you can start; but do not begin on too extensive a scale; half a dozen colonies are sufficient to begin with. If the enthusiasm is kept up and all goes well, their number can readily be increased.

—Moore's[®] Rural.

Baron Berlepsch, in several different experiments made to find out how many eggs are daily deposited by the queen bee, discovered that she laid 1,604 eggs in 24 hours, as the result of the first. In the second she deposited on an average 1,913 daily, for the space of 20 days. In the third one an average of 2,400 daily was found for the same length of time. In the fourth, she deposited 3,021 in 24 hours. She was seen by him to deposit 6 in one minute.

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16, 17.—Northern Michigan, at Carson City, Mich.	
1880.	
Jan. 13.—N. W. Ill. & S. W. Wis., annual, at Davis, Ill.	
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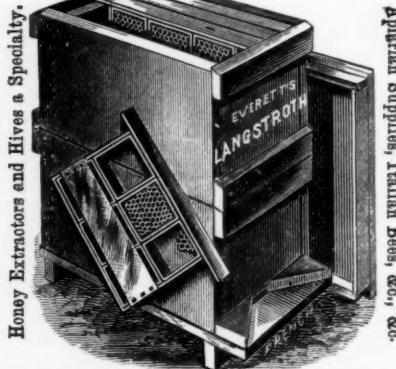
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SHUCK'S UNIVERSAL BEE HIVE.



Claims the Attention
engaged or inter-

tion of every one
ested in Bees.

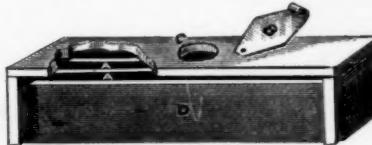
THE HIVE

Is devised by a practical bee-keeper for PROFITABLE use; double walls, with either dead air space or chaff packing; inside walls are porous, allowing all moisture to escape from the brood chamber, keeping it perfectly dry, sweet and wholesome, even with unsealed stores; both sides are removable; frames hung upon metal supports on the top of the end walls (not in rabbits) and are easily handled; brood chamber large or small, as desired, and may be as complete with one frame as with a dozen; space for 96 pounds surplus honey within six inches of the brood nest. No colony need be lost during the winter months in this hive. No melting combs in this hive during the hot weather. Positively

THE BEST HIVE BEFORE THE PUBLIC.

APIARY RIGHTS, \$5.00. TERRITORIAL RIGHTS FOR SALE ON EASY TERMS.

SHUCK'S BOSS BEE FEEDER.



Patented June 11, 1878,

Removes all the obstacles in the way of feeding, by its simplicity, cheapness, and its adaptability to the purposes required. It is to be placed at the entrance outside the hive, and supplied with sugar syrup, or syrup and flour any time in the day, without annoyance from bees, either to the bee-keeper or the colony being fed; no bees can reach the food except from the inside of the hive. Every bee-keeper appreciates the advantage of feeding to supply short stores for the colony, or to stimulate and encourage breeding, previous to an expected flow of honey.

Prof. A. J. Cook says: "I think very highly of your feeder, and only find fault with the price."

G. M. Doolittle says: "You are just a shouting when you say, 'I trust my Boss Bee Feeder will please you.' It is the best bee-feeder I ever saw, in ease of feeding, simplicity and for general use. When I see a good thing I like to say so. It is worth no less because it is patented."

D. D. Palmer says: "I received your Boss Bee Feeder and would say of it, that I like it better than any I ever saw; in fact, it seems to be all that could be desired. It is all you claim for it, being so convenient to get at, and being so readily filled without disturbing the bees or being to the trouble of taking off the cover."

SAMPLE, BY MAIL, 30 CENTS.

Address,

J. M. SHUCK,

DES MOINES, IOWA.

IMPLEMENTS OF THE APIARY.

For full list of Apian Supplies, see our Catalogue, which will be sent free upon application.

COMB FOUNDATION.

We have **reduced** our prices for Comb Foundation, as follows:

Sample by mail.....	10c.
1 lb. by mail.....	.75c.
WHEN SENT BY EXPRESS.	
Size of Sheets 12x18 or 8x16½ inches.	
1 to 5 lbs., per lb.....	.47c.
5 " 25 ".....	.46c.
25 " 50 ".....	.45c.
50 " 100 ".....	.44c.
100 lbs. or more, per lb.....	.43c.

Wired Comb Foundation.

This positively prevents sagging, making all combs very strong and durable. It has flat-bottomed cells, exceedingly thin and even, the wire being incorporated into it by a new process. It is for use only in the breeding apartment.

(Size, 8x16½ and 11½x12 inches.)	
1 to 25 lbs., per lb.....	.70c.
25 to 50 ".....	.68c.
50 to 100 ".....	.67c.
100 to 500 ".....	.65c.
500 lbs. and over, per lb.....	.63c.

NEW LANGSTROTH BEE HIVE.

SAMPLE HIVE—nailed, not painted.

No. 1.—Brood Chamber, 10 frames, portico, 7½ inch cap—but no surplus arrangement.....	\$2.00
No. 2.—Same as No. 1, with Comb-Honey Rack, complete.....	3.00
No. 3.—Same as No. 1, but having 20 frames, and Comb-Honey Rack—complete 3-story hive	3.75
No. 4.—Brood Chamber, 10 frames, and 7-inch story, with 7 cases containing Prize Boxes and tin Separators, for surplus Honey, with 2-inch cap.....	3.00
No. 5.—Same as No. 4—but having 10 extra frames—a complete 3-story hive.....	3.75
No. 6.—Brood Chamber, with 10 extra frames, for extracting, and 2-inch cap.....	3.00

MATERIAL—cut, ready to nail.

(14½x18½ inches inside.)

In lots of 5 each.....	No. 1, \$1.25.....	No. 6, \$1.80
" 10 "	" 1.20.....	" 1.70
" 25 "	" 1.10.....	" 1.60
" 50 "	" 1.05.....	" 1.55
" 100 "	" 1.00.....	" 1.50

Material for Langstroth Frames.

Cut, ready to nail—(9½x17½ inches, outside).

100 frames.....	\$1.50
5,000 or more frames, per 1,000.....	\$14.00

REGISTERING SLATES.

Size, 3x4 inches, with a hole in the centre of the top, for hanging them on the hive by a nail. Price, \$1.50 for 50; \$2.50 for 100. They must be sent by express or freight. Sample by mail and postage, 10 cents.

GUMMED HONEY LABELS,

For Honey Jars, with blanks in which to write your name and address, 50c. per 100.

Same, with your name and address printed, 1000 for \$5.00 for \$3.50.

For Honey Boxes or Large Cans, with blanks in which to write your name and address, 75c. per 100.

Same, with your name and address printed, 1000 for \$6—500 for \$3.50.

Un gummed large Labels for Crates, with blanks for names, weights, &c., 75c. per 100.

Send by Postal Money Order, Draft or Registered Letter at our risk,

THOMAS G. NEWMAN & SON, 972 and 974 W. MADISON ST., CHICAGO.

HONEY EXTRACTORS.

The Excelsior, No. 1.—For 2 Langstroth frames 10x18 inches.....	\$8.00
Ditto No. 2.—For 2 American frames, 13x13.....	8.00
Ditto No. 3.—For 2 frames, 13x20 or less.....	12.00
Ditto No. 4 " For 3 " " " "	12.00
Ditto No. 5.—For 4 " " " "	14.00
Muth's—for any size frame.....	12.00
Everett's.....	10.00 to 12.00
Murphy's.....	13.00 to 15.00
Chapman's.....	10.00
White's.....	10.00 to 15.00
Novice's.....	7.50 to 9.00
Peabody's—for any size frame.....	10.00
Hill's Gas-Pipe Extractor.....	6.50 to 7.00

BEE FEEDERS.

Shuck's Feeder may be placed at the entrance of the hive. Price, by mail.....	30c.
Novice's Simplicity Bee-Feeder, by mail.....	10c.
Kretchmer's Feeder, by mail.....	35c.
Van Deusen Bee-Feeder, by mail.....	75c.
Dunham Feeder, to hang in the hive.....	75c.

BEE SMOKERS.

Bingham's Patent Smoker, by mail, \$1.00	\$1.50
The New Quincy Smoker, " " " "	1.50
Sutliff's Smoker, " " " "	2.00
Alley's Smoker, to be held in the mouth, by mail, .50	.50

HONEY KNIVES.

Bingham & Hetherington's.....	\$1.00
Ditto with detachable cap-catcher.....	1.25
Scofield's, Novice's, Murphy's, Chapman's or Peabody's.....	each 1.00
Muth's.....	.50

MISCELLANEOUS.

Honey Gates.....	75
Novice's Iron Blocks, for frame making.....	25
Queen Registering Cards, per doz.....	10
Bee Veils—Complete face protection.....	75
Scissors for clipping Queen's Wings.....	50
Novice's Metal Corners, per 100.....	1.00
Kretchmer's Metal Bearings, per 100, by mail.....	15
Wire Cloth for extractor, tinned, per square foot.....	15
" " Queen Cages, " " " "	12
" " painted, —14 mesh to 1 inch.....	10
Gearing for Honey Extractors.....	2.00
Printed Envelopes, containing card of the BEE JOURNAL, as well as the address of the Honey Producer—100 for 50c.; 250 for \$1.00; 500 for \$1.75; 1000 for	3.00
Glass for Prize Crates, 3½x16½ inches, per 100 lights, boxed.....	3.50
Glass for Prized Boxes 5x6 inches, per box, 240 lights, boxed.....	3.00
Comb Foundation Machines, of any make, at manufacturers' prices.	
Wax Extractor.....	3.50
" with Copper-bottomed Boiler	5.00
Atomizers, for spraying or sprinkling queens, bees, brood and comb.....	1.00
Long Rubber Gloves, per pair	2.00
To ascertain the size required, lay the open hand palm down, on a sheet of paper, and mark around both hand and fingers with a pencil.]	
Electrotype Cuts of any of the Extractors or Bee Hives, for illustrating circulars, pamphlets, and for advertising, by mail, post-paid, each \$1.00	
Queen cuts (three different styles) each .75c & 1.00	
Italian or black workers, or drones, each	75
We can furnish Emerson's Binders, gilt lettered on the back, for THE AMERICAN BEE JOURNAL, at the following prices, postage paid:	
Cloth and paper, each.....	.50
Leather and Cloth.....	.75

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